Evaluation Design Report

MCA INDONESIA
GREEN PROSPERITY PROJECT

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Peatland Management and Mapping

EVALUATION DESIGN REPORT

Evaluation of Peatland Management and Mapping

MCA Indonesia Green Prosperity Project

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Acronyms

BAPPENAS	National Development Planning Agency
BAU	Business as Usual
BGPP	Berbak Green Prosperity Partnership
BIG	Indonesia Geospatial-Mapping Agency / *Badan Informasi Geospasial*
BRG	Indonesia Peatland Restoration Agency / *Badan Restorasi Gambut*
CBA	Cost-Benefit Analysis
CBNRM	Community-based Natural Resources Management
CCFPI	Climate Change Forests and Peatlands in Indonesia
CKPP	Central Kalimantan Peatland Project
DED	Detailed Engineering Design
DGIS	Dutch Ministry of Foreign Affairs
DRA	District Readiness Assessments
EDR	Evaluation Design Report
EMM	Euroconsult Mott MacDonald
ERR	Economic Rate of Return
ESMP	Environmental and Social Management System
EWS	Early Warning System
FGD	Focus Group Discussions
FPIC	Free, Prior, and Informed Consent
GHG	Greenhouse Gas
GIS	Geographic Information Systems
GK	Green Knowledge
GoI	Government of Indonesia
GP	Green Prosperity
GPF	Green Prosperity Facility
IRB	Institutional Review Board
IRR	Internal Rate of Return
KII	Key Informant Interview
LL-A	Landscape and Lifescape Analysis
LiDAR	Light Detection and Ranging (Spatial Data)
MoA	Ministry of Agriculture
MCA-I	Millennium Challenge Account - Indonesia
MCC	Millennium Challenge Corporation

M&E	Monitoring and Evaluation
NDC	Nationally Determined Contributions
NPV	Net Present Value
NRM	Natural Resource Management
PE	Performance Evaluation
PES	Payment for Ecosystem Services
PLUP	Participatory Land Use Planning
PMC	Project Management Consultant
PMIS	Procurement Management Information System
POP	Period of Performance
PSDABM	Innovative and Creative Technopreneur Development
Q&A	Questions and Answers
RE	Renewable Energy
RESTOPEAT	Restoration of Tropical Peatland for Sustainable Use of Renewable Natural Resources
SOW	Scope of Work
SGIP	Social Gender Integration Plan
TAPP	Technical Assistance Project Preparation
TAO	Technical Assistance and Oversight
TOC	Theory of Change
USD	United States Dollar
USG	United States Government
WWF	World Wide Fund Indonesia

1. INTRODUCTION AND BACKGROUND

Peatlands are the most space-effective stock of organic carbon on the planet. Natural forestland is estimated to store around 1,146 gigatons (Gt) of carbon, while peatlands, occupying a tiny fraction of the land area, is estimated to contain between 180 and 455 gigatons of carbon (Dixon et al. 1994). Indonesia has about 15 million hectares (ha) of peatland with belowground carbon stock of about 20-30 Gt. This concentration of carbon contained in peat poses a very high risk of significant greenhouse gas emissions from peatland degradation (Agus et al 2011). Their destruction also brings about a host of other hazards as a result of recurring fires, prolonged and deep flooding, poor water quality and increased scarcity, and loss of biodiversity, producing high environmental and economic costs.

A country can significantly impact both regional and global environments, markets, and livelihoods through its peatland management decisions. Rehabilitation activities (e.g., rewetting and enrichment planting, can increase ecosystem services, including carbon storage and water regulation) encourage regeneration and create new economic opportunity. However, barriers to peatland restoration can and do arise through competing land use policies and misaligned economic incentives. These have the potential to neutralize the benefits of technical approaches. Policy and governance reform can therefore constitute an important component of effective peatland management. This militates in favor of a comprehensive approach addressing both policies and technical approaches to peatland restoration.

1.1. Country Context

Peat forest and swamps in Indonesia account for more than 50% of the world's known tropical peatlands and, since the mid-1980s, have been subjected to extensive deforestation and degradation from logging, draining, and clearing of land for timber and industrial plantation development. Beyond the significant environmental costs associated with these habitats' destruction, economic and health costs have also been critical. The large-scale conversion of peatland (namely for industrial palm oil and pulp timber) has resulted in increased water pollution and extensive fires and smoke haze problems across the region and in neighboring countries (Singapore, Malaysia). The haze caused more than 100,000 premature deaths in 2015 alone (Koplitz et al 2016), alongside mounting pressure on several already threatened species and has placed Indonesia among the top GHG emitting countries in the world. Under a "business as usual" scenario the continued drainage and clearing of peatland will eventually result in the land becoming economically unviable; a barren wasteland.

Following the disastrous fires of 2015, the Government of Indonesia (GoI) launched an initiative to restore more than 2 million ha of peatland, cutting 29% of GHG emissions by 2030. In alignment with the country's Nationally Determined Contributions (NDC), the GoI enacted wide-ranging policies to restore its peatland, including a moratorium on new conversions of primary forest and peat below 3-meters deep.

Government regulations supporting sustainable peatland management:

- ***Presidential Instruction (Decree) of May 20, 2011*** on primary forest and peatland, to improve governance and to impose a moratorium on new licenses.

- *Government Regulation #71 of 2014* on the protection and management of peatland ecosystems.

- *Presidential Instruction #8 of 2015,* a moratorium on issuance of new licenses for the exploitation of primary forest and peatland.

- *Presidential Regulation #57 of 2016* establishing the National Peatland Agency / *Badan Restorasi Gambut* (BRG).

President Jokowi Widodo's ambitious plan to restore vast areas of peatland has focused primarily on hotspots in key provinces. Most restoration activities to-date have been small-scale trails in these targeted provinces that have attempted a number of initiatives to address peatland degradation, focusing on both direct and indirect barriers to peatland restoration and rehabilitation. Constraints to effective peatland restoration in Indonesia include altered peat topography (biophysical and hydrological), invasive water-intensive ferns and shrub species, recurrent fires, climate change, inconsistent land-use and regulatory policies, and lack of alternative livelihood options. Restoration activities have primarily focused on integrated fire management, rewetting (canal blocking/infilling), revegetation, and to a lesser extent, alternative livelihoods.

1.2.   Objectives of the Report

In support of the GoI's efforts to restore and rehabilitate its peatlands, the Millennium Challenge Corporation (MCC) negotiated a Compact Investment with Indonesia, investing in a comprehensive program designed to support the country's goal to reduce GHG emissions – namely the "Green Prosperity Project". The Green Prosperity (GP) Project responded to GoI priorities and devised a holistic landscape-based approach to catalyze low carbon growth and inclusive prosperity.

Peatland conservation and restoration emerged halfway through the Compact as a critical priority in meeting GP objectives. Grant agreements with EMM and WWF were modified to take into account the emerging GoI priorities after the fire emergency. For convenience, we refer to these projects as the "peatland portfolio". It is important to recognize that this suite of activities is an emergent concept from the GP portfolio responding to these shifting priorities.

Integra has been tasked to evaluate the mapping, design, effectiveness, implementation, and sustainability of the three grants that make up the peatland portfolio of GP, and to generate a subset of lessons learned specific to this cluster of projects. This "Evaluation Design Report (EDR) – Peatland Grants Performance" outlines the evaluation design, approach, and methodology; process for fieldwork data collection, analysis, and reporting; and the required administrative tasks to implement the evaluation.

This EDR is organized into four (4) sections:

- **Section 1:** Introduction to peatland and country context.

- **Section 2:** Overview of the Compact and interventions. Includes an introduction to the grants facility activity and its theory of change (TOC); a summary of the facility's peatland portfolio activities, to include geographic coverage; a discussion on the ex-ante and ex-post cost-benefit analysis methodologies; and the literature review.

- **Section 3:** Presents the evaluation design. Includes Integra's methodological approach and data collection strategies; and the challenges and limitations to addressing the evaluation questions related to the design, implementation, effectiveness and impact, and sustainability, of the peatland activities.

- **Section 4:** Outlines the administrative steps Integra will take to ensure that this performance evaluation meets ethical and quality standards and the protection and security of data obtained. The Evaluation Team and the timeline for the evaluation are also included in this section.

2. OVERVIEW OF THE COMPACT AND THE INTERVENTIONS TO BE EVALUATED

The MCC entered into a five-year, USD $600M Compact agreement with the GoI in 2011 and the agreement came into force in April of 2013. The first grant agreements were signed in early 2015, and the grants that comprise the peatlands portfolio were signed in December 2015, more than two years after the entry into force and with less than three years left to fulfill the grant terms.

2.1. Overview of the Compact, the GP Project, and the GPF

As part of this agreement, the Millennium Challenge Account Indonesia (MCA-I) was established and three multi-million-dollar facilities were implemented to support the government's priority of sustainable economic growth for the country, focused on community-based health and nutrition to reduce stunting, procurement modernization, and Green Prosperity. Through the Green Prosperity facility, the Compact aimed to achieve the results below by April 2018:

- Increase productivity, reduce reliance on fossil fuels and reduce land-based greenhouse gas emissions by expanding renewable energy, improving land use practices, and better management of natural resources (*Green Prosperity*);

- Increase household income through cost savings, productivity growth and higher lifetime by reducing low birth weight, childhood stunting and malnourishment of children in project areas (*Community-based Health and Nutrition to Reduce Stunting*); and

- Achieve significant government savings and higher quality on procured goods and services to achieve the delivery of public services as planned (*Procurement Modernization*).

The largest component and flagship project for the Compact was the $332.5M Green Prosperity project, designed to promote a less carbon-intensive future by investing in renewable energy (RE) and the sustainable management of natural resources (NRM), aimed at increasing productivity while reducing GHG emissions. The GP Project consisted of four activities:

1. **Participatory Land Use Planning (PLUP) Activity:** This activity focused on investment in administrative boundary setting, the updating and integration of land use inventories, and enhancing spatial plans at district and provincial-levels.

2. **Technical Assistance and Oversight (TAO) Activity:** The TAO provided technical assistance and project oversight for grants issued under the Compact. Eligible districts, project sponsors, and community groups were identified and offered assistance in their development

of potential investments in sustainable and low-carbon economic growth. Technical assistance in the form of application preparation for submission to the GPF was also offered.

3. **Green Prosperity Facility (GPF) Activity:** The grant funding facility for the Compact, the GPF was responsible for the financing of low-carbon development projects and is the entity under which three funding windows and later thematic portfolios was supported.

4. **Green Knowledge (GK) Activity:** Designed to support knowledge management and capacity building, the GK Activity provided technical assistance and support for strengthening local, provincial, and national capacity to drive forward Indonesia's nation-wide low-carbon development strategy within the context of the GP Project.

The GPF is the grant-making and administrative body responsible for funding to RE and NRM (sustainable agriculture, peatland, social forestry) activities. The original design called for the PLUP and GK to provide a foundation for GPF grants and the TAO was designed to support grantees during the application process.

Support services for the prioritization of GP investments included a strategic environmental assessment and District Readiness Assessments (DRAs). DRAs were conducted to select the provinces and districts best suited for GP investments. DRAs were based quantitative indicators including poverty levels, governance, and peatlands under threat. DRAs also helped to finalize critical analyses of social, environmental and economic issues, and assist in the selection of GP projects.

These initiatives, and the preparatory analysis undertaken to advance them, were intended to foster smarter, greener, and more sustainable low-carbon growth for Indonesia; informing policy and documenting knowledge gained. The TAO Activity also supported the facility by assisting eligible grantees in the identification, development, and submission of applications for funding to the GPF through Technical Assistance Project Preparation (TAPP) grants, which applied to partnership, community, and commercial RE grant projects (e.g., feasibility studies, landscape and lifescape analysis). The GPF provided grants to mobilize private sector investment and community participation in RE and sustainable land use practices. Figure 1 presents the structure of the Green Prosperity Project.

Figure 1: Green Prosperity Project Structure
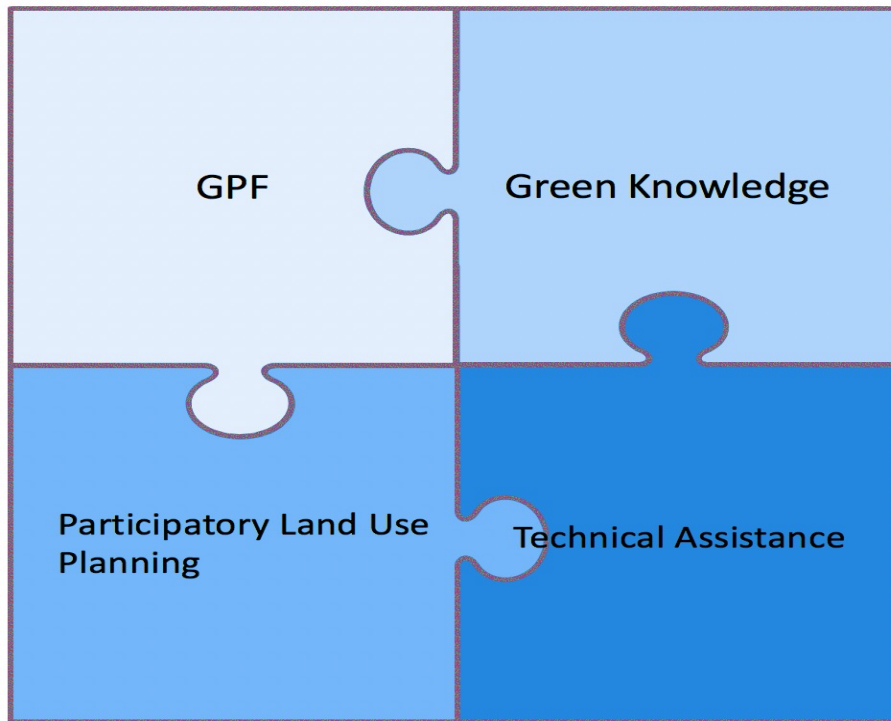
2.2.   Theory of Change

The GP Project combined technical assistance, grants, and commercial financing to help communities protect critical ecosystem services and enhance livelihoods.

The GPF was designed to "reduce poverty through low carbon economic growth" by funding renewable energy and sustainable natural resource management activities and providing technical assistance to complete grant requirements such as the IFC safeguards and project preparation through a grant[1]. The TAPP grant paid for the preparation of project documents such as engineering designs, feasibility studies, environmental, social, and gender compliance plans, and risk analysis. The GPF contractor did not provide technical assistance directly but did participate in the process by reviewing deliverables and identifying problems such as inadequate design measures or insufficient hydrological evidence.

Other activities, such as PLUP Activity, District Readiness Assessments (DRAs), and the GK Activity were designed to guide and provide the underpinnings to maximize the benefits of individual grants.

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[1] Only Window 1 and Window 3 grant applicants were eligible for Technical Assistance and Project Preparation (TAPP) grants. The GPF contractor for Window 3 did not supply direct technical assistance. Moreover, not all grant applicants received a TAPP grant.

The logical framework presented in Figure 2 outlines the hypothesized linkages between GP inputs and higher-order impacts, addressing some of the most critical Indonesian development priorities, including increasing access to clean and reliable energy and improving the stewardship of natural assets. The framework also presents defined linkages between GP Project inputs and the goal of reducing poverty through low carbon economic growth. Specifically, improved land use practices and management of natural resources to (a) increase productivity and (b) reduce land-based GHG emissions. In the instance of peatland activities, the promotion of more sustainable agricultural and forestry practices leads to increased productivity on existing, degraded peatland and the improvement of carbon sequestration in these carbon sinks. The confluence of GP activities is thereby expected to reduce GHG emissions and increase household income of beneficiaries.

Outcomes included improved watershed management (water retention and flood management), density of forest cover maintained or improved, and peatland saturation and level of groundwater. Short-term outcomes refer to results that were achieved within the timeframe of the project and within one year after completion of implementation. Medium-term outcomes refer to results that can be measured after year one of implementation. Long-term outcomes refer to results achievable (or likely to be achieved) one year or more beyond completion. The final goal follows in line with that of the overall GP logic as shown in Figure 2, to reduce poverty and GHG emissions.
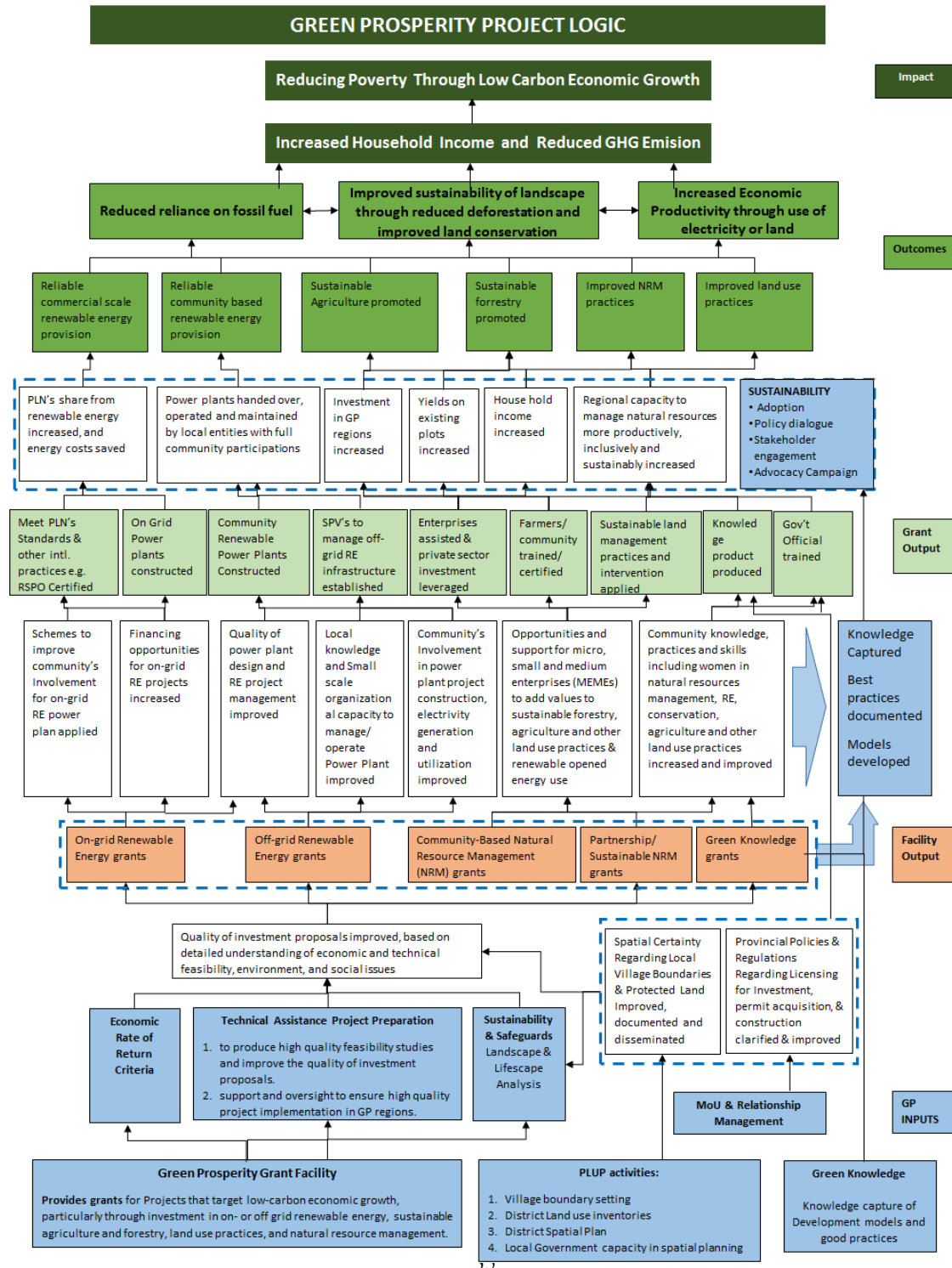
Figure 2 Green Prosperity Logical Framework

Source: https://data.mcc.gov/evaluations/index.php/catalog/203

2.3.   GP Peatland Grants Description and Implementation Status

2.3.1. Rationale

The rationale for the development and support of sustainable peatlands management activities under the GP project stem from the present state of peat landscape in Indonesia that is either barren or partially forested due to extensive drainage and clearing, primarily from logging and palm oil expansion. Conversion and poor management of land-use has led to increased flooding, decline of the water table, and increased incidences of fire (to include the catastrophic 2015 fires) that impact the potential for production of key commodities such as oil palm and rice. Other challenges that are compounding these management challenges are the lack of reliable data on land resource use and boundaries (tenure) and inaccurate geographic information system (GIS) models for measuring carbon stock needed for peat depth and composition.

As long as the landscape remains drained and clearing continues, significant economic, health, and social costs will be incurred impacting the well-being of people in both the critical areas where peatland exists (i.e., Sumatra and in West Kalimantan) in Indonesia and its neighbors. GP activities were intended to develop a balanced economic growth model to combat these challenges that included effective management of the combined hazards of peat subsidence, floods, and fires following a landscape/lifescape approach to achieve low carbon economic growth and prosperity that is socially inclusive.

2.3.2. Overall approach

The peatland portfolio consisted of activities under Window 1 and 2 – under Window 1b's Partnership Grants and Window 2's CBNRM Grant. These grants implemented activities in support of low-carbon growth and reduced GHG emissions and entailed sustainable peatland management. Recipients of these grants supported capacity building of the Peatland Restoration Agency (BRG), primarily through the eight functions that the BRG is mandated to oversee (BRG, n.d.)

1. Coordination and strengthening of peat restoration implementation policy.
2. Planning, controlling and cooperation of peat restoration implementation.
3. Mapping of peat hydrology unity.
4. Determination on the zoning of protected function and cultivation function.
5. Implementation of infrastructure construction for peat wetting (rewetting).
6. Restructuring of burnt peat areas management.
7. Implementation of socialization and education of peat restoration.
8. Implementation of supervision in construction, operation and maintenance of infrastructure in concessions lands.

2.3.3. Objectives

In support of the GP Project's overarching goals, activities under the Peatland Portfolio were designed to achieve the following:

"…reduce GHG emissions from peatland degradation through peatland restoration activities or encouraging appropriate forms of peatland cultivation." (MCA-I, 2018)

In support of this objective, guiding criteria for inclusion in the portfolio followed a landscape approach that included (1) canal blocking to support hydrological rehabilitation and water management to reverse peatland drainage, subsequently raising the water table; (2) revegetation to support regrowth and zero drainage species for fire management and reduction; (3) alternative livelihood opportunities; and (4) capacity building to institutionalize sustainable peatland management through BRG and the Berbak Landscape Forum. The grants also targeted low-carbon economic growth and avoidance of deforestation by working with smallholders in the surrounding areas to improve agricultural practices. In addition, MCC funded two contracts that included LiDAR mapping and engineering designs in other critical/priority peatland areas with the understanding that BRG would use these resources to expand their activities and support the GoI objective of rewetting significant areas in 2018 and 2019.

2.3.4. Project description

Projects that were focused on rehabilitation of drained and fire-prone peatlands have been grouped, for purposes of this evaluation, as a "peatland portfolio". These projects are a subset of GP grants that were selected through a competitive process based upon criteria established in the GP design phase.

As floods and fires regularly affect peatlands in wet and dry seasons, respectively, canal construction and peatland drainage are the main drivers of these processes. Thus, hydrological management through the use of canal blocking/infilling for rewetting/re-flooding became the key criteria for inclusion under the portfolio. Secondary components included revegetation replanting/seed dispersal and building capacity for sustainable peatland management within government institutions (namely BRG). Supporting alternative livelihoods for communities near peatlands became the least integrated of the components.

MCC set the criteria for what would become known as the "peatland portfolio" in 2018. Activities included:

1. Construction of dams to block drainage canals to rewet peatland

2. Reforestation and revegetation of degraded peatland

3. Installation of early warning systems (EWS) for fire management and water table monitoring systems

4. Peat and environmental impact mapping

5. Livelihoods support including tree nurseries and farmer training

6. Support to BRG

CRITERIA FOR INCLUSION

For the purposes of this evaluation, a requirement for inclusion under the portfolio was that a grantee _must_ have conducted rewetting activities as part of their grant. These include canal blocking, revegetation/reforestation, and compatible livelihood opportunities for communities in the context of rewetting. Support to BRG was an additional criterion. Guided by these criteria,

three successful[2] grants had peatland rehabilitation components that focused on rewetting and are to be evaluated under the peatland portfolio.

Window 1B: Partnership Grants (larger in scale; signed in 2015 but implementation commended in 2016 after a reassessment of fire damage and revision of target areas).

- *Euroconsult Mott MacDonald (EMM)* – Final Report claims, "134 (phase-1 uncontested) compacted peat dams built".

- *Yayasan World Wide Fund Indonesia (WWF Indonesia)* – Final Report claims, "[83] Canal blocking constructed and functioned".

Window 2: CBNRM Grants (shorter scope, began in 2016 and ended in 2017).

- *Mitra Aksi Foundation* – Final Report claims, "Critical peatland restoration through the construction of 15 canal blocks and 30 hydrant wells that aim to rewet the peat and prevent fires"

WINDOW 1: PARTNERSHIP GRANTS

Berbak Green Prosperity Partnership (BGPP) / Kehujau Berbak Project

Managed by EMM, the BGPP Project's higher-level goals were to increase household incomes and reduce GHG emissions from deforestation and peatland degradation. Under the BGPP, the consortium comprised of implementing partners and vendors and focused on two primary project components that addressed (1) peatland degradation and (2) sustainable palm oil. Activities under this project addressed combined challenges of the Berbak landscape, namely conservation and restoration of remaining and surrounding peatlands adjacent to Berbak National Park through rewetting, adaptive community engagement, establishment of sustainable palm oil production, and institutionalization of sustainable peatland management practices. For the peatland component of the grant (and of import to this evaluation) BGPP's objective was to:

"Develop an effective demonstration model for peatland restoration that restores the landscape, prevents fires, reduces GHG emissions, and creates alternative livelihood strategies for local communities." (EMM, 2018). Additionally, EMM was to test new technical and regulatory approaches that had not been employed by the Indonesian government in peatland management previously.

Peatland activities under the BGPP occurred along the buffer-zone of Berbak National Park, in the Tahura Protected Area, the second largest peat swamp reserve in Southeast Asia (250,000 ha). The project was designed to increase household incomes and reduce GHG emissions from deforestation and peatland fires. The BGPP prioritized rewetting activities, distinguishing itself from other peatland projects through its use of heavy machinery to install compact earth dams, in addition to landscape management (land and water management zoning and fire reduction plans) and sustainable low-carbon livelihoods (e.g., paludiculture). EMM also oversaw the mapping of

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[2] "Successful" indicates that the grant delivered on all components and received final approval on deliverables.

peatland depth, water table depth, flood maps, and land cover (financial incentives for conserving peatlands) to support canal blocking using Light Detection and Ranging (LiDAR) spatial tools through their vendor Deltares[3] in East Sumatra and West Kalimantan, as well as later capacity building and strengthening of the BRG.

The project was originally intended to be a payment for ecosystem services (PES) REDD+ project, but as the REDD+ component was dropped matching private sector funding did not materialize as anticipated and complications arose with the original scope of work (SOW) and partners. These challenges led to a delayed start for the canal blocking activities (intended for 2015 but not initiated until the fall of 2017) with the grant set to expire on its period of performance (POP) in March 2018.

RIMBA Corridor (RIMBA) Project

The landscape known as the "RIMBA Corridor" encompasses about 3.8 million ha and falls within the jurisdictions of three provinces in Sumatra – Riau, Jambi, and West Sumatra/*Sumatera Barat* – and spans 19 districts, eight of which collaborated under the RIMBA Project. WWF Indonesia is the lead implementer for the project and its overall objective was to protect biodiversity and increase carbon stocks across the Corridor's critical landscape by enhancing forest ecosystem connectivity through green economic development.

Under the RIMBA Project there are three components: (1) strengthening of institutional foundations, human resource capacity, and the sustainability of the GP program applied to forest and land-based sectors; (2) investment in green economic development scenarios focused sustainable palm oil, sustainable rubber, peatland rewetting and restoration, and watershed protection and coffee; and (3) measuring impact of the project. Component 2 focused on peatland rewetting activities in addition to forest restoration and the development of non-timber forest product business models (Cluster 2). The objective for Cluster 2 was:

"Increased sustainable natural resources management and conservation, and green economic development in eight districts in the "RIMBA Corridor." (MCA-I 2018)

Peatland activities under the RIMBA Project focused on the rehabilitation of peat swamp through the design and installation of drainage canal blocking dams to rewet peatland and initiate revegetation. At the core of these activities was rewetting through the use of hydrological restoration (raising of the water table via block dams and water table monitoring) coupled with the restoration of the area with plants (seedling nurseries) that would generate economic value, as well as prevent fires and rehabilitate lost forests for flooding prevention. EWS were revitalized, improved, or put in place for an integrated fire management approach that included incentive programs that balanced enforcement and behavior change efforts to mitigate fires. In addition, livelihoods in the targeted communities were also strengthened to provide economic benefits apart from replantation through alternative or non-timber agriculture practices, such as honey and freshwater fish products using gender and social inclusivity practices.

WINDOW 2: CBNRM GRANT

Grants under Window 2 covered a wide-range of CBNRM activities. With respect to peatland initiatives, several of the grants awarded under this window touched on aspects of peatland restoration, often overlapping with sustainable agriculture and social forestry activities. Only one grant however focused on rewetting as a key component that included installation of block dams and is therefore included under the peatland portfolio.

Innovative and Creative Technopreneur Development (PSDABM) Project

The Mitra Aksi Foundation was the only successful Window 2 peatland grantee. They proposed the PSDABM Project to construct canal blocks in support of sustainable peatland management and agriculture for reducing GHG emissions for poverty reduction. PSDABM's objective was:

"...to reduce poverty and carbon emissions through improvement and enhancement of the capability of using the agriculture land productively, inclusively, and sustainably." (Mitra Aksi Foundation 2017).

Under the PSDABM Project, the Foundation focused on three core components to achieve their objective: (1) increase farmers' income through improved land use and intercropping cultivation systems, (2) increase value-added low emission agricultural commodities through strengthening farmer organizations and post-harvest improvements to be able to access modern markets, and (3) rehabilitation of critical land managed by the community using an intercropping model.

Component 3 supported peatland restoration through rewetting activities, such as canal blocking and the installation of hydrant wells, revegetation, and an integrated water and fire management system to support an improved cultivation system. The project constructed 15 block dams in two priority villages where damage to the peat was severe following the 2015 fires. Over 30 hydrant wells for fire prevention and improved cultivation were installed in 8 villages. In addition to contributing to fire prevention in shallow peatlands, both blocking and wells proved useful water sources for agricultural cultivation during the dry season.

ADDITIONAL SUPPORT TO BRG

BRG received $4 million for two support contracts that delivered engineering designs, water table monitoring, and LiDAR mapping to the Agency, as well as mapping support to Indonesia's geospatial-mapping agency or *Badan Informasi Geospasial* (BIG). Institutional support to BRG was later provided under the EMM and WWF Indonesia contracts, through targeted technical assistance to BRG and training to the Regional Peat Restoration Teams (TRGs), which spearhead the implementation of government peat restoration.

2.3.5. *Project participants and stakeholders*

A cornerstone for investment under MCC-funded Compacts is the use of public-private partnerships to support activity implementation. International organizations, national institutions, national associations and platforms, government counterparts, civil society and local NGOs worked with grant beneficiaries under the GP Project. Table 1 lists entities involved in the support of the GP Peatland Portfolio activities implemented by EMM, WWF Indonesia, and Mitra Aksi.

Table 1: Peatland Grantee Stakeholders

SHAREHOLDERS	
International	• Wetlands International
National	• National Peatlands Restoration Agency (BRG) • Ministry of Environment and Forestry (MoEF) • National Development Planning Agency (BAPPENAS) • Ministry of Home Affairs (MoHA) • Ministry of Public Works and Housing (PUPR) • Ministry of Agriculture • Ministry of Agraria and Spatial Planning • Geospatial-Mapping Agency (BIG)
Province	• Provincial Development Planning Agency (BAPPEDA) • Regional/Provincial Governments Organisasi Pemerintah Daerah (OPD) • Provincial Forest Departments • Coordinating Centre for Forestry in Sumatra • Sumatra Eco-Regional Centre • Berbak National Park • Program NEWTREES • TRGs
District	• Local Government and Technical Organizations
Local/Community	• Village governments • Villagers around Tahura and Londerang (men and women, considered separately in view of gendered needs and benefits)

Not an exhaustive list, compiled from budget and M&E documentation

2.3.6. Geographic coverage

The GP Project identified and financed activities in 14 provinces in the RE and NRM sectors. The critical regions identified for sustainable peatland management by MCA-I were Kalimantan and Sumatra for LiDAR-based elevation and peat thickness mapping and Sumatra for on-the-ground restoration activities. As a key priority region, recognized by the GoI and because of its internationally significant peatland landscape (one of Southeast Asia's largest remaining peatland areas, and notable due to impacts from degradation that has resulted in intense flooding and fire risk in the region) the main focus for the implementation for the on-the-ground interventions for sustainable peatland management in Sumatra was in the Province of Jambi.

Under Window 1, both EMM and WWF Indonesia conducted activities in Muaro Jambi and Tanjung Jabung Timur in Jambi Province. EMM operated in the buffer-zone of the Berbak National Park, in the Tahura Protected Area, and WWF Indonesia in the Londerang Protected Forest. The sole Window 2 grantee, Mitra Aksi, was the smallest of the portfolio grants. Mitra Aksi worked in the Tanjung Jabung Timur, Muaro Jambi, and Kerinci districts, overlapping in some areas with WWF Indonesia and EMM, in addition to providing consortium support to EMM through "socialization of the canal blocking and revegetation works" (EMM, 2018) and working

with WWF Indonesia in the construction of block dams. Comparison of Mitra Aksi's project with the other two may yield interesting insights given its apparent holistic approach.

2.3.7. Economic rate of return: Ex-ante cost-benefit analyses

The Evaluation Team reviewed the three economic rate of return (ERR) models (or cost-benefit analysis models) that were conducted ex-ante for each of the three grants described in Section 2.3.4 above. The Annex Section 7.2.1 goes into much greater detail about the ex-ante models and their methodology, which is summarized here. The ex-ante cost-benefit analysis (CBA) conducted by GP differed somewhat from the typical MCC/MCA cost benefit analysis and beneficiary analysis, due to the nature of the Facility. The GPF did not conduct a whole-of-project CBA, rather, each of the grants provided data and assumptions for the MCA economist to complete the ERR models.

For the grantees under the peatland portfolio three categories of benefits were included in the models: (1) increased incremental income/revenue (all three grants), (2) cost-savings through a new technology (EMM introduced biodigesters that were intended to reduce the cost of cooking and lighting activities), and (3) fire risk reductions (WWF and EMM). Fire risk reductions were based on estimates from the 2015 Jambi fire.[4] While all three grants had stated objectives of reducing GHG emissions, this benefit was not modeled nor was it required per MCC's ERR guidance.

There were two main categories of costs considered. The first concern were costs related to each benefit stream (e.g., operations, maintenance). Second, the program cost for MCC were considered, which included the grant itself and MCA overhead. These grant costs appear to capture the costs for canal blocking, hydrant wells, revegetation, and training.

The ex-post CBAs will follow the same general structure of the ex-ante CBAs, with a few modifications, in order to yield estimates for the economic impacts of the peatland projects. The approach to the evaluation-based CBA is explained further, under Section 2.4.

2.3.8. Description of implementation to date

The Evaluation Team has undertaken one scoping data collection trip to Jakarta, prior to the writing of this EDR. The following information is based on available quarterly reports, final reports, M&E data, and subsequent analysis undertaken by the grantee (e.g., Landscape and Lifescape Analysis (LL-A), Social Gender Integration Plan (SGIP), Environmental and Social Management Plan (ESMP), feasibility studies) provided to the Evaluation Team by both MCA-I and MCC. Additional and more targeted information will be acquired during the upcoming fieldwork in Jakarta when the Team will be visiting targeted project locations for data collection. The

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[4] See World Bank Group, "The Cost of Fire: An Economic Analysis of Indonesia's 2015 Fire Crisis", Indonesia Sustainable Landscapes Knowledge Note: 1 (2016).

information included below provides a brief snapshot of the progress made against project outputs for each of the three peatland grants and their relevant activities[5].

EMM'S BGPP PROJECT

Implementation Dates: 4 December 2015 – 31 March 2018

Component 1 – Activities to be evaluated:

- Design and construct compacted peat canal-blocking dams in the Tahura to re-wet drained peatland

- Re-vegetate re-wetted peatland with commercially-important paludiculture (wetland) tree species

- Strengthening and capacity building of Indonesia's peatland restoration agency, BRG

The CBA will include the first two activities explicitly and the capacity building of BRG implicitly (see more on this below). The evaluation-based CBA will also include the activity that promoted the sustainable palm oil production, which includes the construction and use of the biodigesters.

The BGPP project underwent a nine-month period of contract renegotiation and program adjustment that resulted in a "stop work" suspension order that lasted for 30 days (November 2016 – January 2017) due to grant agreement compliance issues.

According to EMM's Final Report, flood maps were produced but flood data was not shared so projections could not be made. In addition, the estimation of business as usual (BAU) carbon emissions and the preparation of the carbon emissions and fire reduction plan, as well as groundwater observation well design and location plan activities were cancelled.

The BGPP Project did provide institutional support directly to BRG and indirectly to BIG through the development and updating of LiDAR mapping (pre and post-2015 fires) for flooding, peat thickness, and terrain modeling for a total of 252,000 ha.

WWF INDONESIA'S RIMBA PROJECT

Implementation Dates: 18 December 2015 – 31 March 2018

Component 2, Cluster 2 – Activities to be evaluated:

- Design and install peatland drainage canal blocking dams to re-wet peatland and initiate re-vegetation

- Reforest critical watershed protection areas

- Establish seedling nurseries to support reforestation and re-vegetation efforts

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[5] Only activities undertaken by grantees that were directly related to peatland restoration/rehabilitation will be evaluated, rather than the entirety of the grant. Alternative livelihood activities that were not linked to revegetation/reforestation efforts for the rehabilitation of peatland *specifically* are considered sustainable agriculture activities and will not be evaluated under the Peatland Portfolio.

Additionally, sustainable livelihood activities for rubber, coffee, and fruit tree production will be included in the CBA.

SUPPORT TO BRG

Both EMM and WWF Indonesia provided technical assistance to BRG through capacity building, training, mapping, and the development of engineering designs (as noted in the tables above). In total, BRG engineering support produced 720 engineering designs, engaged 56 communities in rewetting through FPIC, and supported 3 EWS.

The costs associated with these efforts will be modeled explicitly into the CBA, and – depending on the results from the evaluation - the benefits may be modeled implicitly as an assumption that these benefits from restored peatlands will continue into the future. For example, the assumption could be that wet tolerant species will continue to thrive and smallholder farmers will continue to benefit from the associated economic activities based on these species.

MITRA AKSI'S PSDABM

Implementation Dates: 24 July 2016 – 31 December 2017

Component 3 – Activities to be evaluated:

- Rehabilitate of degraded land, including restoration of peatland

- Support farmers in implementing the improved cultivation system to include revegetation of critical peatland

The CBA will include all these activities in their model (see Section **Error! Reference source not found.** for more details).

2.4.   Literature Review

The underlying logic for restoration and long-term management of peatland hinges on its perceived economic value. Indonesia has an estimated 20 million ha of tropical peatland and between June and October 2015 almost 875,000 ha burned as a result of the 2015 fires. The World Bank estimates that the fires and haze produced cost Indonesia at least IDR 221T (~USD 16.1B), equivalent to 1.9% of its 2015 GDP (World Bank Group, 2016). As a result, a number of restoration initiatives have been devised to address deforestation and degradation resulting from logging, drainage, fires, and land use conversion across the country. The techniques and approaches being used for restoration to-date have generated some key lessons learned that are relevant to the grants being evaluated under MCA-I's peatland portfolio.

2.4.1. Summary of existing evidence

Restoration barriers involve a range of biophysical, hydrological, ecological, socio-economic, and policy barriers; compounded by a changing climate. Existing research examines these constraints to effective tropical peatland restoration, informing current practice and approaches towards rewetting, revegetation, and sustainable management of peatland landscapes.

2.4.2. Restoration barriers

DIRECT

- **Biophysical:** Changes in peat physical properties and peatland micro-topography as the result of removal of vegetation and the construction of artificial drainage canals may constrain successful regeneration of peat forests. Altered physical properties of peat can be due to changes in micro-climate conditions, hydrological fluctuations, oxidation, and recurrent fires leading to peat subsiding, reduction of peat "hammock-hollow" topography, and increased flooding (Graham, Giesen, and Page, 2017).

- **Hydrological:** Repeat fires, wild or triggered through clearing, and disruptions to the hydrological balance of the peatland landscape as a result of drainage are also a barrier to peat forest regeneration and revegetation. A lowered water table impacts water availability and quality, and drainage increases flooding and drought risks.

- **Ecological:** Protection of remnant natural peat forests is necessary for restoration. However, the impacts from fire and hydrological fluctuations and destabilization of peatland have permitted the invasion of dense ferns and shrub species. These water-loving plants increase competition for indigenous plant species and are prone to fire during drought, hampering natural degeneration of degraded peat areas.

INDIRECT

- **Socioeconomic:** Poverty and lack of alternative livelihood options are the main barriers for restoration in communities that are living in or adjacent to peatlands and who rely on peat swamp areas. Communities illegally plant on peatland, including burning peat forests for cultivation purposes, and use canals to transport pulp, ash, and other products to markets.

- **Policy:** There is still uncertainty surrounding regulatory and policy measures governing peatland use in Indonesia and there is a lack of consistency among ministries and institutions that govern peatland. For example:

    o The protection of peatland is based upon peat depth – The ***Ministry of Agriculture (MoA) Regulation 14/2009*** allows oil palm cultivation on deep peat "if the peatland is outside conservation areas or has been allocated for cultivation under the planning régime". This contravenes the Central Government policy for the moratorium on natural forests and conversion to cultivation (previously noted ***Presidential Decree 10/2011).***

    o No uniform water table minimum threshold – MoA's ***Regulation 14/2009*** and the GoI ***Regulation 71/2014*** stipulate different levels, MoA at 60-80cm and the GoI at 40cm.

2.4.3. Restoration efforts

Peatland restoration should follow a landscape-based approach that considers all of the barriers noted above. Rehabilitation efforts to-date have focused on the following techniques; rewetting and revegetation have been identified as critical activities.

- **Rewetting / Hydrological Restoration –** The technique currently being used in Indonesia for rewetting is the use of canal or ditch blocking. Canal blocking requires the placement of dams (i.e., wooden, compact peat, concrete) or water weirs in targeted sections of artificial/drained canals so as to reverse surface water outflow and raise surface and groundwater-levels along the canal course (Ritema et al., 2014). While hydrology must be restored, re-wetting is not enough on its own to restore degraded peat areas because as peat compacts (oxygenation or combustion) it loses its ability to reabsorb carbon effectively.

- Given the complexities of social and economic interactions in the peatlands, sustainable canal blocking also depends upon Free, Prior, and Informed Consent (FPIC) among key stakeholders in order to mobilize and engage communities in the sustainable management of peatlands.

- **Enrichment Planting –** Regeneration of vegetation and forests through seedling production, transportation, and promotion of dispersal. Landscape-level efforts also include fire management initiatives that mix incentives and criminalization for enforcement and training provided to fire brigades, alongside risk-based EWS and innovations for water table monitoring.

- **Alternative Livelihood Options –** A lesser explored and seemingly less thoughtfully applied restoration effort has been on the identification and sustainability of livelihood options as alternatives to cultivation, peat ash, and logging. Although alternative products are being explored, such as faster growing *gelum* and *jelutung*, which thrives in a peat swamp environment, biomass for aviation fuel, freshwater fish for areas that cannot be restored, and even honey, these have not been promoted effectively or been a focus to-date.

- **Institutional Strengthening and Capacity Building** – A far more recent effort comes with the establishment of the BRG in 2016, which has been tasked with the restoration of critical peat across the country. New initiatives have now emerged for improving peatland mapping, disturbance level identification, and ecosystem carbon stocks assessments. However, knowledge of the GHG footprint of existing drained lands is based on sporadic data, whilst knowledge on the GHG footprint of restored lands remains elusive.

2.4.4. Greenhouse gas emissions

To address the shortcomings in understanding the GHG footprint GP activities, MCC contracted with ICF International to evaluate the potential of the 65 projects that comprise the Green Prosperity Project for GHG reduction. ICF collected data on agriculture, forestry, peatland restoration, and renewable energy practices that impact GHG emissions from the GP grantee, and developed methodologies to estimate the potential for GHG reduction.

ICF's finding was that the majority of emission reductions are due to reforestation/agroforestry and peatland wetting. The total potential emission reductions across the 65 projects is 1 million tonnes CO_2e per year. These potential emission reductions could contribute to Indonesia's goal to reduce GHG emissions as defined by Indonesia's Nationally Determined Contribution.

ICF and MCA shared these methodologies with the Ministry of Environment and Forestry and the Peatlands Restoration Agency to promote consistency in estimating GHG emissions.

2.4.5. Donor initiatives

Tropical peatland restoration in Indonesia is very much in its infancy, with the earliest initiatives aimed at restoration starting in the early 2000s. One of the first bodies to focus on rewetting through the use of canal blocks was the *Climate Change Forests and Peatlands in Indonesia* (CCFPI) comprised of three conservation organizations: Wetlands International (Indonesia Programme), Wildlife Habitat Canada, and the Global Environment Centre (Malaysia). These dams were constructed from 2003-2007 in Central Kalimantan and South Sumatra and, following this "successful" experience, additional dams were constructed under the EU-funded project Restoration of Tropical Peatland for Sustainable Use of Renewable Natural Resources (RESTOPEAT) in 2005, from 2005-2009 under the Dutch Ministry of Foreign Affairs (DGIS)-

funded NGO-partnership[6] Central Kalimantan Peatland Project (CKPP), 2009 by Greenpeace's Defender Climate Camp, in 2010 under Orangutan Tropical Peatland Project, and more subsequent recent initiatives such as by CIFOR and under the USAID-funded LESTARI project.

As part of a landscape-based approach to peatland restoration efforts to revegetate bare peatland have been implemented concurrently with rewetting activities in Central Kalimantan. Pilot and trial programs for enrichment planting programs include seedling nurseries and transplanting. Fire management initiatives have been instituted, alongside EWS. Less work has been done to date regarding alternative livelihood options and less so on institutional, regulatory, and policy reform. There has not been any significant coordination effort across donor initiatives as a result of these smaller initiatives.

2.4.6. Gaps in literature

As previously mentioned, peatland restoration in Indonesia is still in its infancy. While the barriers towards restoration are readily identifiable there is little coherent or rigorous reflection on the effectiveness and sustainability of interventions.

In addition, a comprehensive economic valuation encompassing the public benefits of peatland ecosystems and how these compare with the costs of restoration has been lacking to date. This means that policymakers have thus far had very little guidance with respect to the economic efficiency of investments into restoration of this climate-critical ecosystem on its own or compared to competitive government spending for climate change mitigation and adaptation related to land use or in other sectors. Even though it has been 11 years since the Stern Review (2007) there is still no comprehensive economic analysis of this climate-critical ecosystem available to help guide restoration decisions (Dohong, Aziz, and, Dargusch, 2018). Additionally, the lack of an economic rationale for restoration hampers the potential for developing market-based financing mechanisms such as payments for ecosystem services that could potentially complement publicly financed peatland restoration aimed at climate change mitigation (Glenk and Martin-Ortega, 2018). As yet no peatland landscape in Indonesia has developed a balanced economic growth model that includes effective management of the combined hazards of peat subsidence, floods, and fires.

2.4.7. Spatial data

Particular gaps exist as a result of lacking spatial data for analysis. It is important to understand that much of the science and technology associated with direct and, even indirect, measurement of peatland restoration relies on remote sensing and GIS. There are many benefits to the use of remote sensing and GIS, including the capacity for synoptic landscape to global measurement of biophysical variables, the ability to quantify trends at long-term observational scales, and the ability to model trends into the future. However, many gaps remain in the available science and toolsets:

- **Issues associated with resolution.** Until recently, the majority of spatial data was available either at landscape scale (est. 30m) or the 1km+ scale. Using data at higher resolution often incurs high acquisition costs and can increase the complexity of analysis and modeling.

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[6] Members of the partnership included Wetlands International (Indonesia) CARE Indonesia, WWF Indonesia, Borneo Orangutan Survival Foundation (BOSF), University of Palangka Raya (UNPAR)

- **Acquisition period.** Temporal issues associated with the available data reflect some of the cost and computational constraints discussed above (e.g., LiDAR at a monthly scale would be prohibitively expensive).

- **Algorithm sensitivity.** Peatlands are innately some of the more difficult ecosystems to depict with remote sensing. This is partially due to their complexity, but also due to the need for accurate field training data for algorithms (e.g., data points for dams, water depth/flow).

2.5. Policy Relevance of the Evaluation

Successful peatland restoration in Indonesia is as much dependent on meaningful land use policy and governance reform, as it is on the technical effectiveness of specific restoration methods. In this vein, the evaluation can serve three primary purposes:

1. Inform the design of future MCC/MCA peatland activities.

2. Test the efficacy of the project logic.

3. Provide lessons learned to the GoI and other stakeholders for improved sustainable peatland management.

As the grant facility model is currently being used by MCC and there is interest in expansion of grant facilities, an improved understanding of the lessons from the results of, and processes entailed, for these grants, may inform MCC as to the replicability of this model in other MCC Compacts.

Similarly, the result should provide additional information for other stakeholders, including the GoI, to consider when implementing future peatland restoration and rehabilitation activities. The results of this evaluation may also help with considerations of measurable benefits of peatland rewetting or restoration, as discussed in Part 3 below.

3. OVERVIEW OF COST BENEFIT AND BENEFICIARY ANALYSIS

The ex-post CBA will generally build upon the same overarching analyses conducted by the ex-ante CBA, with several modifications. The full approach is outline in the Annex in Section 7.2.2 and summarized here in this report.

One of the modifications to the ex-ante analyses will be the inclusion of a stakeholder analysis and integrated approach developed by Harberger and Jenkins (2011). This evaluation-based CBA will refine approaches to estimating benefits and will include other benefit streams that align with the intervention objectives, such as reducing GHG emissions. Additionally, this evaluation will explore the extent to which benefit streams modeled in the CBA for each grant were appropriate and/or realistic, specifically examining the assumptions discussed in Section 7.2.1 in the Annex that were woven into the ex-ante analyses. Another important point to emphasize is that the ex-post CBA is based on the TOC and expected impacts and will be built on observed changes to date and modified expectations for the future based on current evidence following the conclusion of grant activities. Here again, the findings in the evaluation on the sustainability of the activities moving forward will be instrumental in updating the ex-ante CBAs.

Many of the key assumptions, benefits, and costs will be examined directly by the Evaluation Team to assess the effectiveness of these GP projects. The CBA will examine the key component activities outlined for each for the three grants and discussed in the evaluation approach above (see Section 2.3.8); it will also go beyond the scope of the evaluation to include other key economic benefits reported by the three grantees, including benefits from increased on-farm productivity for rubber, coffee, and fruit tree farmers (for the Rimba Project) and sustainable palm oil production, including biodigesters that were installed (in the BGPP project) so that the overall economic impact of the grantee's activities can be assessed using CBA.

The results of the financial and economic analyses will be reported in net present value (NPV) terms, as well as in financial internal and external rate of return (IRR and ERR, respectively) for each of the three grants.

FINANCIAL ANALYSIS

The following beneficiaries and stakeholders will be included in the financial analysis:

1. Smallholder farmers/producers switching to lower carbon livelihoods and the impact on their incremental incomes;

2. Users of bio-gas digesters and associated cost savings from using cattle waste and palm oil effluent for home cooking use (BGPP Project only); and

3. The GoI and the various entities responsible for sustaining investments in the canal blocks and ensure the water levels in the peatland remain sufficiently high and the land is revegetated.

ECONOMIC ANALYSIS

The economic analysis will include the net benefits to the stakeholders and beneficiaries listed above, and the following additional benefit and cost streams:

- **Cost avoidance of fire and flooding:** Rewetting and revegetation of peatlands are expected to reduce the likelihood of flooding and fires. These likely benefits (using conservative estimates) will be modeled into the economic analysis to the extent that the Evaluation Team collects evidence that the water table is rising.

- **Reduction in GHG Emissions:** Valuing the reduction in GHG emissions will rely on internationally accepted standards of valuation for GHG emissions. The *social cost of carbon* has conventionally been estimated from a global perspective; MCC has generally excluded the social cost of carbon from its CBA models, including the ex-ante models for the GP Project, on the basis that the scope of its analysis is limited to the estimation of ERR from the country's point of view. New research has resulted in models that can generate the social cost of carbon from a single country's perspective. A recent study by Ricke et al (2018), allows for the estimate the social cost of carbon for Indonesia.

Finally, each model will include the key investments made using the grant and leveraged funds as well as a proportionate share of MCA's overhead to this project. Other unintended expenses will be examined as well and included as relevant such as any additional costs associated with travel if people can no longer use the canals for transportation.

SENSITIVITY ANALYSIS

Sensitivity tests, at a minimum, will likely be run on all assumptions for increased agricultural productivity, assumption on GHG reductions, and assumptions for incremental reductions in fire and flooding.

ASSUMPTIONS

There are a number of critical assumptions that will be built into the model. First, MCA grantees also invested in capacity building, strengthening institutional foundations, and technical support for BRG and other government bodies. The costs associated with these efforts will be modeled explicitly into the CBA, and the benefits will be modeled implicitly as an assumption that these benefits from restored peatlands will continue into the future if the Evaluation Team agrees the evidence suggests this may be the case. Another key assumption is whether, in fact, these activities led to a reduction in fires and flooding. This will depend on how much water levels increased and to what extent the peat forests have been rehabilitated. These assumptions are being explored by the evaluation and any findings that the current levels are unlikely to have an impact of the incidence of fires and floods will then be built into the model.

4. EVALUATION DESIGN OVERVIEW

MCC has contracted Integra to conduct a performance evaluation (PE) of the peatland portfolio activities. A mixed-methods approach to determine implementation efficacy through quantitative and qualitative data collection and analysis will be used. This evaluation will examine the relevant peatland activities implemented by the two successful and two unsuccessful grants under Window 1, and the one successful grant under Window 2. This section of the EDR will outline the design, approach, and methodology for the PE. The primary purpose of the PE will be to identify project results (outputs and outcomes) and assess project implementation as of the end of the activity and Compact (June 2018) and future sustainability. This EDR will enable MCC and the GoI to capture lessons learned and inform future work.

4.1. Evaluation Questions

The evaluation questions focus on common issues faced across all projects in the peatland portfolio, as well as on comparing outcomes between the activities conducted under the respective grants.

Table 2: Evaluation Questions

Evaluation Question	Areas of Inquiry
1. Relevance / Design of Grants [Implementation Fidelity]	a) Were the activities in the peatland portfolio designed to achieve the GP objectives?

2. Grant Implementation [Lessons Learned]	a) What were the processes and lessons learned from GP's efforts to improve long-term management of peatlands? Specific areas to include are:
	    ○ Canal blocking and rewetting, including community engagement in canal blocking construction, legal and policy obstacles and steps to overcome obstacles, construction methods and techniques, construction restoration and long-term maintenance of structures
	    ○ Building capacity in central, provincial, and district government entities, to sustainably manage peatlands, including training of personnel, TA, creation of training material
	    ○ Mapping in and around peatlands
	 b) What administrative or legal actions or documents were required to properly execute the various peatland activities?
	 c) What were the major challenges of canal blocking along legal, permitting, and technical dimensions?
	 d) What capacities for peatland protection were built, and how were they disaggregated by gender?
	 e) Did the grant implementers have the skills necessary to achieve intended results?

3. Effectiveness / Impact	a) How do targeted communities perceive the canal blocking process and its utility? This relates to time, finance, and convenience. b) Did the implementers effectively teach communities how to properly build dams to block canals (WWF)? c) In the case of canal blocking with heavy equipment, what are the advantages, disadvantages and perception of communities? d) Were there any unforeseen outcomes of canal blocking? e) Were land and water management improved through the development of zonal plans and mapping? If so, how? f) What impact, if any, has there been on re-vegetation in the targeted areas? g) Have targeted communities' economic activities changed as a result of the peatland activities, particularly the alternative livelihoods activities? If so, how? h) Is there evidence of an effect on the incidence and/or severity of peatland fires? i) What is the ex-post ERR for the portfolio? (to be included under Optional CLIN 1004 that may be exercised by MCC)

Evaluation Question	Areas of Inquiry
4. Sustainability	a) What mechanisms/activities have been put in place to ensure sustainability of the blocked canals? b) What was the long-term outcome of the dams built – that is, over the period of the evaluation, how many of the dams built were still functioning, and is there evidence of more hectares "rewetted"? c) What was the long-term outcome of the replanting of wet-tolerant species – that is, over the period of the evaluation, how many of the replanted hectares are still supporting at least 60% of the trees originally planted? d) Was BRG able to adopt and utilize the analytical tools, including the mapping and the detailed engineering designs (DEDs) and other donor proposals provided to them? What is the likelihood of BRG's continued use of these tools? What was the impact of training?

The evaluation questions on effectiveness and sustainability (questions 3 and 4 above) and the associated areas of inquiry will all inform the CBA (with the exception of 3e and 4d).

4.2. Evaluation Design Overview

The Evaluation Team will employ a mixed-method approach to data collection. The PE will rely primarily on qualitative data that includes an in-depth desk-based review of key GP Project monitoring and government documentation (secondary data), as well as a stakeholder analysis and mapping, a series of key informant interviews (KIIs), facilitated focus group discussions (FGDs), and via direct observation of the evaluators (primary data) with project stakeholders. All interviews will strive for gender inclusion, and FGDs will be gender-segregated. Primary data findings will be triangulated against secondary qualitative and quantitative data. Quantitative data will be collected through the review of documentation (e.g., ex-ante CBA, M&E, spatial data) in addition to results of structured questions through the use of questionnaires.

The focus of the PE will be to identify changes that occurred over the duration of implementation of the three successful grants in the peatland portfolio, and the extent to which these changes can be attributed to the GP Project. The Evaluation Team will seek to establish what the situation was at the commencement of the grants, the present situation, and the reasons for any changes demonstrated, both those coming from the grants as well as driven by external factors.

Table 3: Summary of Evaluation Approach

EQ	Key Outcomes	Data Source / Location	Data Type
1(a)	Constraints and benefits of GP peatland activities and outcome impacts on ERR. Lessons learned for improved strategic planning and impact investment to improve land use practice and maintain carbon sinks for lowered GHG and low carbon growth.	Desk review: Compact M&E Plans, Grant M&E Plans, Quarterly and Final Reports KIIs/Questionnaires: MCA-I/MCC/Grantees/Beneficiaries	Qualitative, Quantitative
2(a)	Lessons learned from grant processes for improved future grant performance and management by MCC. Lessons learned for continued management of peatland landscapes by the GoI and key stakeholders.	Desk review: Best Practices and Case Study documents, Lessons Learned Report, Training Reports and Materials, Project Deliverables (Engineering designs, Quarterly and Final Reports and M&E Plans), BRG Action Plans, LL-A, SGIP, ESMP, LiDAR, other spatial data KIIs/Questionnaires/FGD: MCA-I/GoI/Grantees/Beneficiaries	Qualitative, Quantitative
2(b)	Protocols and policies put in place for future peatland management and canal block initiatives. Consistency across engineering designs and requirements to be supported by the GoI and to guide implementers/investors.	Desk review: Quarterly and Final Reports and M&E Plans, Policy and Legislation, Legal Documentation for construction of dams, ESMP and safeguards, EIAs, spatial data KIIs/Questionnaires/FGD: MCA-I/MCC/GoI/Grantees/Beneficiaries	Qualitative, Quantitative
2(c)	Gaps and opportunities for improved policies for peatland management identified and addressed.	Desk review: Policy and Legislation, Legal Documentation for construction of dams, LL-A, SGIP, ESMP, LiDAR and other spatial data, Quarterly and Final Reports and M&E Plans KIIs/Questionnaires/FGD: MCA-I/GoI/Grantees/Beneficiaries Direct Observation	Qualitative, Quantitative
3(a)	FPIC protocols and improved community mobilization and engagement. Lessons learned regarding resource needs and impacts at the local-level.	Desk review: Project Deliverables, SGIP, ESMP, ERR KIIs/FGD: MCA-I/GoI/Grantees/Beneficiaries Direct Observation	Qualitative
3(b)	Proper construction and design techniques employed or areas for improvement. Lessons learned on approaches to canal blocking in a tropical environment (what works and what does not).	Desk review: Engineering designs, Project deliverables, training report and stakeholder engagement plans, SGIP, LL-A, ESMP KIIs/FGD: MCA-I/GoI/Grantees/Beneficiaries Direct Observation	Qualitative, Quantitative
3(c)	Proper construction and design techniques employed or areas for improvement. Lessons learned on approaches to canal blocking in a tropical environment (what works and what does not).	Desk review: Stakeholder and FPIC findings, Project deliverables, spatial data KIIs/FGD: Grantees/Beneficiaries Direct Observation	Qualitative, Quantitative
3(d)	Lessons learned and effectiveness of canal blocking activities using different forms of engagement and construction.	Desk review: Feasibility studies, SGIP, LL-A, ESMP, spatial data and mapping, Project deliverables, engineering designs, PMC KIIs/FGD: MCA-I/GoI/Grantees/Beneficiaries Direct Observation	Qualitative, Quantitative

EQ	Key Outcomes	Data Source / Location	Data Type
3(e)	Improved mapping and land use planning approaches.	<u>Desk review:</u> Feasibility studies, SGIP, LL-A, ESMP, spatial data and mapping, Project deliverables, engineering designs, PMC <u>KIIs/FGD:</u> MCA-I/GoI/Grantees/Beneficiaries Direct Observation	Qualitative, Quantitative
3(f)	Success of project activities and uptake of seedling vitality. Lessons learned, capacity building, and sustainability impacts and future resource needs identified.	<u>Desk review:</u> SGIP, LL-A, ESMP, spatial data and mapping, Project deliverables <u>KIIs/FGD:</u> MCA-I/GoI/Grantees/Beneficiaries Direct Observation	Quantitative Qualitative
3(g)	Beneficiary analysis and impact of specific alternative livelihood options. Lessons learned and opportunities for scaling and replication.	<u>Desk review:</u> SGIP, LL-A, ESMP, spatial data and mapping, Project deliverables <u>KIIs/FGD:</u> MCA-I/GoI/Grantees/Beneficiaries Direct Observation	Qualitative, Quantitative
3(h)	Lessons learned and training curricula.	<u>Desk review:</u> ESMP, spatial data and mapping, Project deliverables <u>KIIs/FGD:</u> MCA-I/GoI/Grantees/Beneficiaries Direct Observation	Qualitative, Quantitative
3(i)	NPV of CBA	<u>Desk review:</u> GHG emissions data, spatial mapping data, ex-ante CBA <u>KIIs:</u> MCA-I/GoI/Grantees/Beneficiaries Direct Observation	Qualitative, Quantitative
4(a)	Success of projects in the long-term sustainability of peatland rewetting. Lessons learned for the GoI, implementers, and community beneficiaries.	<u>Desk review:</u> Proposals, Feasibility studies, SGIP, LL-A, ESMP, spatial data and mapping, Project deliverables, engineering designs, PMC <u>KIIs/Questionnaires/FGD:</u> MCA-I/GoI/Grantees/Beneficiaries Direct Observation	Qualitative, Quantitative
4(b)	Success of projects in the long-term sustainability of peatland rewetting. Lessons learned for the GoI, implementers, and community beneficiaries.	<u>Desk review:</u> Spatial data and mapping, Project deliverables, engineering designs, PMC <u>KIIs/FGD:</u> MCA-I/GoI/Grantees/Beneficiaries Direct Observation	Qualitative, Quantitative
4(c)	Success of projects in the long-term sustainability of peatland management. Lessons learned for the GoI, implementers, and community beneficiaries.	<u>Desk review:</u> Spatial data and mapping, Project deliverables, engineering designs, PMC <u>KIIs/FGD:</u> MCA-I/GoI/Grantees/Beneficiaries Direct Observation	Qualitative, Quantitative
4(d)	Tools, techniques, and training to improve overall peatland management.	<u>Desk review:</u> Training reports, Project deliverables, BRG Annual Action Plans, engineering designs <u>KIIs/FGD:</u> MCA-I/GoI/Grantees Direct Observation	Qualitative, Quantitative

4.2.1. Phases

The PE will seek to answer the evaluation questions following a three-phased approach to data collection, analysis, and reporting of findings.

Phase 1 – Scoping and Data Collection. To inform the evaluation design the Evaluation Team

met with MCA-I staff, government counterparts, and local stakeholders 9 July – 21 July 2018. This initial consultation was a scoping trip designed to provide the Team with an understanding of what information is available and what would need to be collected in order to support the evaluation. The location of files and access to information was explored and collected via MCA-I and BRG. This initial data collection continued upon the team's return to the U.S. as data was reviewed and gaps were assessed. MCC facilitated the collection of key documents where possible, if they were not recovered either through MCA-I directly or through the PMIS[7].

Phase 2 – Fieldwork and Data Collection. The Evaluation Team will return to Indonesia in April 2019 to continue the collection of vital documentation, conduct KIIs, and to facilitate FGDs through site visits. Phase 2 will focus on meetings with targeted stakeholders, such as former MCA-I staff, national, provincial, regional GoI stakeholders, local counterparts and grantees, and beneficiaries of the activities.

Phase 3. Analysis and Report Writing. After completing research and conducting consultations, the Evaluation Team will provide analysis and recommendations, resulting in the delivery of a final inclusive report to be submitted to MCC for approval.

4.2.2. Implementation fidelity assessment

Integra has determined that the most appropriate definition of implementation fidelity for this evaluation is as the *National Institutes of Health* put forward in its implementation in community-based interventions.

***"Implementation fidelity** is the degree to which an intervention is delivered as intended and is critical to successful translation of evidence-based interventions into practice"* (Breitenstein *et al* 2010).

Integra will assess implementation fidelity by assessing how changes to the original design of the GPF and Peatland projects have impacted the grant process. The starting point will be a review of compact and GPF documents to see what, if any, changes have taken place since inception. The team will endeavor to understand the reasons why changes occurred and the impact of each change. Finally, we will ask key informants to discuss how changes during their grant process may have impacted their success.

4.3.   Quantitative Approach

Quantitative data will be obtained through a desk review of GPF documents, literature review of policies, regulations, procedures, best practices, and other donor-funded projects, in addition to KIIs with grantees and beneficiary communities.

4.3.1. Desk review

Quantitative data will be primarily collected through the tabulation of information from GPF documents, such as feasibility studies, spatial data, M&E plans, ex-ante CBA data, as well as cost and budgetary data that was used for financial analysis. Monitoring data will be used to identify

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[7] Procurement Management Information System developed under the Procurement Modernization Activity for the Compact.

key results and achievements under the peatland portfolio, as well as any areas where the grant activities failed to achieve targets. To assess sustainability the team will review cost-related data for support from the GoI.

SPATIAL DATA COLLECTION

As part of the desk-based research, geospatial data will be used to address specific components of the peatland evaluation questions. Data collected by MCC and GP Project grantees will be utilized, alongside data sets from BRG and BIG, and readily accessible open data sources to support findings and/or address gaps in information. The types of spatial data examined to determine the impact of activities and sustainability of interventions may include available baseline information, land use and cover, hydrology and flooding, burn scars, and population and jurisdictional boundaries. In addition to available research documentation, sources may also include LiDAR, SMAP, PALSAR, MODIS, Sentinel, LandSAT, and other similar data, mapping, and imagery products.

4.3.2. Key informant interviews

Where data is lacking, inconsistent, or unavailable, the Evaluation Team will triangulate through the use of KIIs to address these gaps. This can include beneficiary data and information related to number of canals actually constructed and functioning as designed, hectares rewetted, and revegetation/seedling uptake.

4.4. Qualitative Approach

Integra will collect qualitative data through document and literature review, key informant interviews, focus group discussions, and site visits. Table 3 provides a snapshot of the KIIs, FGDs, and site visits to be conducted. Communities have yet to be selected for the site visits because access, availability, and interest have yet to be confirmed.

Table 4: Summary of Qualitative Data Collection Respondents

Respondent Type	KIIs	FGDs	Site Visits
Beneficiary Communities	12	6	6
Village Leaders	6		
Successful Grantee (and their relevant vendors/implementing partners)	6		
GoI (national, provincial, and local)	4		
External Stakeholders	4		
MCA-I	7		
MCC	4		
Total	43	6	6

*The final numbers are likely to change based on scheduling, availability, and opportunities as they arise in the field.

**These numbers are cumulative and include the previously conducted July 2018 and pending April 2019 trips to the region, as well as KIIs held in Washington DC.

***Supplemental meetings with a KII are not counted separately.

4.4.1. Desk review

Integra will conduct secondary research through desk-based documentation and literature reviews. Integra will review key GP Project, Compact, and government counterpart data and a purposeful sampling of grantee documents prior to the site visits to be conducted in April. This will include, but is not limited to, the following:

Table 5: GP Project documents

MCC / MCA I / GoI	Project
• MCC and Indonesia Compact Agreement • Compact M&E Plans and Reporting • Reports from MCA-I Technical Experts (e.g., grants managers, TAPP, consultants) • Grants Agreements • Lessons Learned • BRG Annual Action plans • Operational Guidance • Calls for Proposals • Grant Modifications	• Proposals and Amendments • Feasibility Studies • Environmental and Social Management Plans • M&E Plans • Social Gender Inclusion Plans • Landscape-Lifescape Analysis • Engineering Designs • Quarterly Reports • Final Reports • Training Assessments

This desk-based research is part of Phase 1 data collection and will be considered a first iteration toward answering the evaluation questions, allowing the team to identify gaps in information that can be filled during Phase 2's fieldwork. This will result in a preliminary set of findings to be triangulated through other methods. Phase 2 will also include additional desk-research in support of the efficacy of activities, such as current best practices for FPIC, dam construction, and revegetation uptake, from external stakeholders in addition to GP documents.

This desk-based review will give the Evaluation Team an in-depth understanding of what the grantees were attempting to achieve and the challenges and opportunities with which they were faced. The research will provide the team with planned targets, achievements, timelines, and other information needed to address the evaluation questions. At this stage, there is still some lack of clarity of the availability of outcome data from each GP Project grantee, which is discussed further in the *Challenge and Limitations* section (Section 3.7).

4.4.2. Key informant interviews

Integra will conduct qualitative in-depth interviews with relevant actors and project stakeholders who were instrumental in the design and delivery of activities under the peatland portfolio. A range of stakeholders will be covered (see Table 6) and a focus will be made to conduct KIIs with targeted grantees (successful and non), former MCA-I staff, government counterparts, beneficiaries, and external stakeholders that are involved in the delivery of peatland management/ restoration/rehabilitation activities in the region, to get a varied perspective on the activities delivered under the portfolio; its challenges, opportunities, and outcomes.

The structure for the KIIs will be a mix of direct engagement through Q&A with prepared and targeted questions either in person during the fieldwork, or (if not possible) through video conferencing. This will allow for inputs that are direct responses in addition to inputs that are part of a dialogue. The interviews will be designed to last no longer than 90 minutes, which will

incorporate time for any translation needed, and will respect the informant's time and attention on the given subject matter. Questions will focus on perceptions with regard to the projects' processes, engagement, delivery, outcomes, and best practices to provide inputs to answer the evaluation questions.

Most interviews will take place either in Jakarta or in the Jambi-region. However, as the project will have ended more than one-year prior to the fieldwork portion of this evaluation, several informants will no longer be in country and thus those KIIs will have to be conducted remotely.

Table 6: Targeted Stakeholder KIIs

Key Informant	Role	Location	Timing
MCC			
Deputy Resident Country Director (Indonesia)	Overview of Compact and GPF evolution	Washington DC	June 2018
M&E	Knowledge of and guidance on M&E processes for MCC, involved in the design and support given to M&E grants	Washington DC	June 2018
MCA-I			
Executive Director	Overview of the Compact, evolution of the GPF, challenges and opportunities	Jakarta	Jul 2018
Deputy Executive Director, GP Project	Overview of the Compact and evolution of the GPF, challenges and opportunities faced to specific activities under the GPF and from MCA-I	Washington DC Jakarta	Jul 2018 Jul 2018
M&E	Familiar with all M&E activities and requirements for the GPF, access to and knowledge of specific implementation M&E plans for grants	Jakarta	Jul 2018
Grants Manager – Window 1	Knowledge of Window 1, GPF design evolution, changes to the design and construction of the portfolios, successes and challenges, sustainability prospects	Jakarta Jakarta	Jul 2018 Apr 2019
Grants Manager – Window 2	Knowledge of Window 2, GPF design evolution, changes to the design, peatland activities, successes and challenges, sustainability prospects	Jakarta Jakarta	Jul 2018 Apr 2019
GP Project Management Consultant (PMC)	Technical support provided to grant proposals and deliverable reviews, issues and challenges grants faced	Jakarta	Jul 208
Economist	Understanding of baseline for peatlands portfolio, ERR, and sustainability issues	Jakarta	Jul 2018 Apr/May 2019
Green Prosperity peatland portfolio Grantees			
EMM	Findings related to the evaluation questions.	TBD	Apr/May 2019
(EMM) Deltares	Findings related to the evaluation questions.	TBD	Apr/May 2019

Key Informant	Role	Location	Timing
(EMM) University of Jambi	Findings related to the evaluation questions.	Jambi	Apr/May 2019
(EMM) Forest Carbon	Findings related to the evaluation questions.	Jakarta	Apr/May 2019
WWF Indonesia	Findings related to the evaluation questions.	Jakarta Jambi	Jul 2018 Apr/May 2019 Apr /May 2019
Mitra Aksi Foundation	Findings related to the evaluation questions.	Jambi	Apr/May 2019
GoI			
BRG	Coordinates with the GoI, provides spatial information on peatlands, capacity building, findings for evaluation questions	Jakarta	Jul 2018 Apr 2019
BIG	Coordinates with the GoI, provides spatial information on peatlands	Jakarta	Apr 2019
BAPPENAS	Coordinating body following MCA-I closure, technical and logistical support, documentation access	Jakarta	Apr 2019
Regional Peat Restoration Team (TRG)	Support in data collection regional, coordination with communities, discussion of grant support activities that built capacity of TRG	Jambi	Apr 2019
Beneficiaries			
Village Leader	Findings related to the evaluation questions.	Jambi	Apr/May 2019
Smallholders Farmers	Findings related to alternative livelihoods as a result of reforestation and replanting efforts.	Jambi	Apr/May 2019
GP Counterparts / Other External Stakeholders			
Wetlands International	Provides best practices, lessons learned from GP Project, context for peatland management and sustainability	Jakarta	Jul 2018 Apr/May 2019
USAID LESTARI	Provides best practice on FPIC and peatland management	Jakarta	Jul 2018
SNV	Engagement on sustainable agriculture on peatland areas, rewetting activities in support of more sustainable oil palm and NRM	Jakarta	Apr/May 2019
UNDP	Engaged in peatlands management and canal blocking in country	Jakarta	Apr/May 2019

4.4.3. Questionnaires

In cases where it is not possible to conduct an in-person or remote interview (either due to scheduling or technological constraints), where greater clarity or technical nuance is needed or where it is more appropriate to communicate because of a need for limited information, Integra will develop and administer questionnaires to collect structured responses to fully address the evaluation questions. This information may be collected as part of a follow-up to a KIIs as well, to fill in any missing information gaps, provide clarification, or as corroborating data. This information will be used to enhance, triangulate, and expand upon existing findings. Identifying information will be removed prior to submission of evaluation data to MCC.

4.4.4. Focus group respondents

Integra will facilitate targeted FGDs with project beneficiaries from each of the three successful grants under the peatland portfolio. These FGDs will happen in communities that were directly engaged in or were impacted by the delivery of project activities in the Jambi region and will take place in April 2019.

The Evaluation Team will conduct gender disaggregated FGDs to respect comfort levels and encourage openness of communication for all participants in order to obtain specific insights from female beneficiaries, and influence of the grant's gender and social inclusion strategy (SGIP). Discussions will concentration on community members and stakeholders' experiences on the project (e.g., what they learned, the challenges they faced, how they see the project outcomes benefits and sustainability).

Integra will have two trained facilitators for all FGDs that will work under the direction of the peatland portfolio Team Leader – (1) an experienced participatory engagement expert that can provide community entrée and structure the discussions to be culturally appropriate while providing language translation support as needed, and (2) another expert with a background in environmental sustainability that can record detailed notes for later analysis. Each FGD will last approximately two hours and will take place in community sites that have been approved in consultation with MCC.

4.4.5. Direct observation

To further substantiate KIIs and the FGDs, the Evaluation Team will also conduct site visits to observe and evaluate structural outcomes, such as peat dam construction, seedling uptake for revegetation and reforestation, and non-timber forest product development. A hydrological engineer with experience in the design and construction of peat dams (bock and compact) and enrichment planting will accompany the peatland portfolio Team Leader on site visits. Both team members will use visual verification to assess and evaluate the construction and sustainability of canal blocking activities, as well as revegetation/reforestation and livelihood activities. As part of the site visits community members involved in canal construction and peatland rehabilitation activities will also be interviewed to provide visual context and attest to their understanding of the dam construction as a result of training.

4.5. Analysis Plan

Integra's analysis will be primarily qualitative; largely descriptive and comparative in nature and will be structured in a way so that it allows for comparison across grant activities and triangulates

findings collected through qualitative methods. The Evaluation Team will take detailed notes from all KIIs, FGDs, and site visits. This data will then be coded and analyzed using a quantitative platform to transform qualitative data into quantitative tabulations, where possible and appropriate. However, due to the likelihood of a relatively small beneficiary sample per grant, it may not be appropriate to quantify the qualitative data generated.

Each question in the KII and FGD protocols will have a direct link to an evaluation question (or component of an evaluation question) and will be categorized according to those linkages during data analysis (See Annex C). The findings generated through these methods will be interpreted in the context of findings generated through other qualitative and quantitative methods described above and triangulated accordingly. Integra will develop a standard codebook for the evaluation questions to analyze themes across respondents.

4.6. Sampling Approach

Under the peatland portfolio there were 3 successful grants. Integra will attempt to interview all three grantees, their relevant implementing partners, and communities that benefitted from the three successful grants. It is anticipated that the two unsuccessful grant applicants will not be available and there may be challenges in meeting with some subs/vendors/partners (see Section 3.7).

To select grantees for the fieldwork portion of the evaluation (i.e., KIIs, FGDs, and site visits), the Evaluation Team will work in consultation with MCC and consider stakeholder recommendations to determine purposeful sampling of beneficiary communities and representative site locations for direct observation (e.g., canal blocks, revegetation/reforestation, and/or livelihood activities such as honey, fisheries). Criteria for sampling consideration will include:

- Number of grantees represented in that location.

- Canal blocking activities undertaken.

- Logistical considerations (wet vs. dry season accessibility and visual functionality of construction features – i.e., canal blocks).

4.7. Challenges and Limitations

There are several challenges and limitations to the data collection that this evaluation will encounter.

- **MCA-I and Project Closure.** MCA-I closed in July 2018 and all Green Prosperity Peatland Project activities were closed-out as of March 2018. This complicates information gathering with respect to the availability and interests of former project staff and grantees to participate in and be responsive to evaluation requests from the Evaluation Team. In addition, the access to information and documentation that are needed to support the evaluation are likely to be hindered, incomplete or missing. BAPPENAS now has proprietorship over all MCA-I data but cannot understand the system. Integra will obtain as much information as possible and work to triangulate data through open data sources, KIIs, FGDs, and through consultations with other stakeholders.

- **Missing Documentation and Contradicting Information.** In addition to some information being unavailable (such as canal inventory maps for EMM or Mitra Aksi Foundation), dating and verification – provenance – issues are rampant. Several files transferred to the Evaluation Team are either not labeled or are labeled inappropriately, creating challenges as to the date, version, or acceptance of changes. Not all processes or comments from MCA-I or grantees were properly recorded – some critical decisions were only logged in the "action logs" of the PMIS system and can either not be found or are no longer available. For the evaluation, this creates a knowledge gap in the Team's ability to understand when a change was requested, or approved, and, why. Additionally, data sets across and within deliverables appear to contradict themselves. For example, several Final Report Deliverables record a different "number of canals blocked" or "hectors rewetted" within the body of the same report. When compared to other documents from MCA-I or external consultants the numbers again are not consistent. Integra will continue to attempt to resolve the inconsistencies and missing data sets through coordination and support from BAPPENAS, BRG, and/or from former grantees.

- **Interest to Support Evaluation from Grantees.** Both successful and unsuccessful grantees have been difficult to meet with because of project closeout. Some grantees are no longer in country, non-responsive, no longer have key project staff available, and in the case of unsuccessful grants, may be disgruntled or decline to be interviewed. In these instances, Integra will work to collect what data is available and acknowledge where gaps may lie in the resulting analysis of findings.

- **Sustainability.** As the grants themselves were implemented in many cases in just under a year, it will not be possible for the Team to evaluate the long-term outcomes of their activities. Integra will attempt to make projections based on available data – For example, by examining recent updates in legacy, higher-level, remote sensing data catalogues (e.g., long-term deforestation trends) to offset the temporal challenges mentioned.

- **CBA Issues.** Ideally, the CBA will isolate the impact of MCA's contribution vis-a-vis those of other funders, but this often proves difficult in complex projects where there is cost-sharing. The Evaluation Team will carefully review MCA investments and expected outputs and try to match costs and benefits as closely as possible. If necessary, the CBA may need to include cost-sharing arrangements from other funders if the benefits attributable solely to MCA cannot be cleanly identified. Additionally, there are certain biases associated with self-reported data on variables such as income. To mitigate both these limitations, the Evaluation Team will triangulate data received from interviews with reports and secondary data if possible, to verify its reasonableness.

  In addition, not all activities under each grant can be modeled in the CBA. For example, some activities in the portfolio included preparing engineering and hydrology studies and designs (DEDs) in these target areas for other donors/investors to use post compact and other activities funded sharing of lessons learned nationally and internationally and encouraged the enabling environment to support future activities. These all likely have benefits but will not be modeled in the CBA.

  Finally, evidence from the evaluation will only provide quantitative and qualitative data from the beginning of the grant implementation until the current period. The CBA is expected to analyze a period of 20 years. As with all CBA projections, creating reasonable and conservative estimates using data over a short period of time (just a few years of

implementation in this case) will prove a challenge. In these cases, the evaluation team will examine the literature and other studies to create conservative projections for the future and will highlight these instances in the final report.

- **Gaps in Available Spatial Data.** There are limitations in the availability of spatial data that would prove beneficial to the evaluation. As mentioned above, MCC has considerable gaps in its database of spatial information, to include canal blocking locations and peatland mapping. This may also be impacted by the fact that the Integra Team, may not be able to get a representative sampling of dams built in order to make projections for sustainability and future impacts. The LiDAR data supplied by the project may also not be representative of change in peat depth or accessible to the Evaluation Team. Should gaps in MCC project data arise, Integra will carefully document these in the report, estimate error, and attempt to improve results with open source data collection.

5. ADMINISTRATIVE

In this section we summarize our plans for carrying out required administrative tasks to implement the evaluation.

5.1. Summary of IRB Requirements and Clearances

Integra will use an external Institutional Review Board (IRB). To this end, Integra's evaluation team met with Dr. Michael Dua, the representative from the Centre for Ethics at University of Atmajaya, Jakarta to discuss the IRB process. Based on that meeting, Integra is preparing the documentation required for the University of Atmajaya in Jakarta's IRB process. The requirements, listed in the proposal, include:

- A description of the research team.

- A description of the research question and the aims of the research.

- Background documentation of the proposed process for conducting the evaluation.

- The informed consent statement.

- The survey instruments.

When documenting the evaluation process, Integra will need to declare if the interviewees will receive any compensation for their time, and if so, what they will receive. Integra also needs to state the start date and the length of the research. The IRB proposal concludes with a series of questions Integra must answer, covering the topics of: the evaluation team, the subject of the research, the project intervention, the sampling strategy, the informed consent statement, and privacy procedures.

Integra will submit the proposal package to the IRB before pre-testing and piloting the instrument. Upon completion of the first stage testing of the survey, Integra will resubmit the revised survey instrument to the IRB for their review and approval before conducting the evaluation.

5.2.   Data Protection

All Integra staff and subcontractors working on the evaluation and with the ability to access the data will sign evaluation specific non-disclosure agreements. All electronic information used, developed, or in any way related to a program is stored on a separate, secure cloud application. This will prevent any unauthorized access or transfer of information. Program personnel are assigned individual protected access the secure data.

Information generated by stakeholders or through KIIs and FGDs will be stripped of personal identifiers and stored on a secure folder accessible only by Integra evaluation team members and handwritten notes will be destroyed.

5.3.   Preparing Data Files for Access, Privacy, and Documentation

Integra will comply with MCC's policy for transparency and open data to the greatest extent possible. Individual identifiers will be removed from the data prior to handover to MCC and upload to MCC's data platform for public access. Additionally, indirect identifiers will be removed from the data. For instance, even the mention of technology can make the response identifiable. This will then limit the ability of the team to share the full results of KIIs. We do not expect this to be the case when the evaluation question addresses grantees (full or TAPP) that did not make it to grant completion.

5.4.   Dissemination Plan

Once MCC has approved Integra's evaluation report and local language executive summary, Integra will develop a final dissemination presentation. Upon MCC approval of the presentation, Integra will meet with GoI officials in Jakarta to share the results of the evaluation. External stakeholders can be included at MCC's request. We will also make a final presentation and answer any questions with MCC in Washington, DC.

5.5.   Evaluation Team Roles and Responsibilities

Integra's team and their corresponding responsibilities are in Table 7.

Table 7: Peatland Portfolio Evaluation Team

Role / Name	Responsibilities
Program Manager / Evaluations Team Lead Matt Addison	• Directly oversee all evaluation teams to ensure consistency and quality of inputs. • Advises on the approach and structure of the evaluability assessment, evaluation design report, and design of data collection tools.
Team Leader, Peatland Portfolio John Waugh	• Directly oversee the Peatland Evaluation Team, delegating responsibilities to team members and conducting quality assurance on their inputs. • Coordinates communication with stakeholders and data collection in field • Oversees all KIIs, FGDs, and site visits. • Responsible for the delivery of all technical inputs to the Program Manager.
Participatory Engagement Expert Eko Susi Rosdianasari	• Leads FGDs through the use of participatory engagement tools and methods. • Environmental expert able to provide translation of technical content to community members and provide communication support. • Contributes to data analysis and report writing, as assigned.
Hydrological Engineer Adhi Siswadi Rahardjo	• Provides expertise in the evaluation, validation, and efficacy of canal clocking construction techniques and rewetting approaches. • Contributes to data analysis and report writing, as assigned.
Evaluation Expert TBD	• Works with the Participatory Engagement Specialist to facilitate FGDs. • Records KII and FGD discussions and provides translation support. • Contribute to data analysis and report writing, as assigned.
CBA Lead Kristen Schubert	• Technical expert responsible for CBA • Oversees all data collection, creates models, inputs, and report writing
CBA Analyst Zuzanna Kurzawa	• Contributes to research and data collection, models, and report inputs

5.6.   Evaluation Timeline and Reporting Schedule

Integra's proposal called for combined implementation in the field for on-grid RE, Social Forestry, and the evaluability assessment. This reduced management and travel costs. However, given the availability of consultants and the need to wait until April, a full year after implementation, on the Peatlands, data collection will take place in two trips.

Table 8: Evaluation Timeline

Trips	Data Collection	Data Cleaning and Analysis	Trip Report	Evaluation Report
Trip 1, Jakarta and Jambi to visit 3 successful grantees, BRG	April 12-May 10, 2019	May 20-24, 2019	May 31, 2019	Draft Evaluation Report: July 19, 2019
				Draft Final Evaluation Report: September 13, 2019
				Final Evaluation Report: October 18, 2019

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7. ANNEXES

7.1. Stakeholder Comments and Evaluator Responses

Table 9: Comments and Responses (to be completed after review)

Reviewer Name/ Institution	Page Number	Comment	Evaluator Responses

7.2. Cost-Benefit Analysis Approach

7.2.1. Overview of Ex-ante CBA Analyses

The types of analyses conducted by the Green Prosperity (GP) program differed somewhat from the typical MCC/MCA cost benefit analysis and beneficiary analysis, due to the nature of the Facility. The MCA economist created the ex-ante ERR analyses of the proposed grants. GP did not conduct a whole-of-project ERR or cost benefit analysis. Rather, each of the grants were expected to have their own cost-benefit and ERR analysis, which would be considered in the grant award process. An overview of each grantee's ex-ante CBA analysis is summarized in the table below.

Table 10: Ex-ante CBA Models Overview

	WWF	EMM	Mitra Aksi
Activities	• Plantations (rubber, palm oil, coffee, cacao & jelutung) • Canal blocking	• Peatland (rubber and jelutung plantation) • Palm Oil (training, certification, increased extraction, biodigester) • Canal blocking	• Training and technical assistance (biopesticides, fertilizer, intercropping, land rehabilitation) to improve yield/reduce cost of inputs (rice) • Canal blocking
Key benefits in model	• Increased income/revenue • Fire risk reductions	• Increased income/revenue • Cost-savings from biodigesters • Fire risk reductions	• Increased income/revenue
Time period	20 years		
Discount rate	10%		
Perspective	All ERR analyses were conducted from economic perspective - Beneficiary analysis not included.		
Sensitivity analysis	Yes	No	No

BENEFITS

Three categories of benefits were included in the models: increased incremental income/revenue (all three), cost-savings through a new technology (EMM), and fire risk reductions (WWF and EMM). While all three grants had stated objectives of reducing greenhouse gas emissions, this benefit was not modelled. All three analyses adopted similar approaches to estimating benefits; these are summarized below.

Table 11: Approach to Estimating Benefits

Benefit		Approach	Grants
Increased revenue/income (*existing activity*)	With	Estimated the expected income attributable to the intervention. Rubber, palm oil, and cacao assumed to be revenue generating in year 6 (WWF). Coffee assumed to be revenue generating in year 5 (WWF). All revenues/incomes were modelled as fixed over the relevant period.	All
	Without	Used existing incomes or revenues. These were modelled as fixed over the 20-year period.	All
Increased revenue/income (*new activity*)	With	Expected income attributable to the intervention. Jelutung was assumed to be revenue generating in year 10 (EMM).	All
	Without	Assumed to be 0 (EMM).	All
Cost-savings	With	Costs of cooking activities assumed to be 0 (EMM).	EMM
	Without	Used current spending on cooking activities (EMM).	EMM
Fire risk reductions	With	It was assumed that fire risk would decrease by 60% on rewetted hectares. This 60% was applied to an expected average annual cost of damage. The remaining annual cost was assumed to be the same for the 20-year period.	WWF EMM
	Without	An expected annual cost of fire (per hectare) was estimated using fire damages in the Jambi region in 2015. This cost was multiplied by the number of hectares in the intervention region to derive an annual cost of fire. It was assumed this cost would be imposed every year for the 20-year period.	WWF EMM

Assumptions used to estimate the benefits will be reviewed and revised for the evaluation-based CBA analysis (ex-post).

Estimating counterfactuals

- It was assumed that revenue/income would be fixed over the 20-year period. It should be noted that this approach may be justified if there is limited evidence to inform dynamic assumptions. However, if interventions are targeting regions where land is either already deteriorating or is increasingly vulnerable to natural disaster shock, it is more likely to decrease yield over time. Alternatively, it could be that counterfactual farm incomes could be increasing overtime due to other improvements in the area or ongoing activities by other donors or the government. This will be explored in the key informant interviews.
- For new activities, such as the new jelutung plantation (EMM), the counterfactual costs and revenues were assumed to be zero since the land was unused and degraded before the grant. This assumption may be problematic if smallholders would have engaged in other income generating activity absent the project

Cost-savings for bio-gas digesters

- The EMM activity included a biodigester. The biodigester was to reduce the cost of cooking activities to zero using cattle waste and palm oil effluent (POME) for home cooking use. The assumption may have been that the users themselves no longer incur costs for alternative fuel sources, making the cost of the biodigester zero. However, maintenance or other usage costs will still exist, even if incurred by a different stakeholder.

Fire risk reductions

- The EMM and WWF models used the cost of fire damages in the Jambi region in 2015 to estimate an average cost of fire in the intervention area. This estimate included damages to agriculture, environment (biodiversity loss and carbon emission), forestry, manufacturing and mining, trade, transportation, tourism, health, education and firefighting costs (World Bank Group 2016). The total Jambi damages were divided by the affected area to estimate the current economic cost due to forest fire per hectare. This cost was multiplied by the number of rewetted hectares in each region. It was assumed this would reduce the risk of fire by 60 percent each year. No further adjustments were made. It is possible this figure may not be properly scaled and could include double-counting; the ex-ante analysis will examine the disaggregated costs and revisit this estimate.
- It was assumed that fire damages would be incurred every year, and that they would be the same every year. Valuations of fire damages comprise a number of costs (e.g. loss of timber/crops, firefighting, loss of biodiversity, etc.). Many of these, once they are 'gone' (e.g. loss of timber due to fire in year 1), should not be again counted as a loss in a fire in year 2. Although identifying an appropriate methodology for estimating this benefit can be challenging, models should at minimum conduct sensitivity analysis on less defensible parameters, if the parameters themselves cannot be refined.
- Similarly, the models estimated the annual avoidance cost of fire by assuming the losses from Indonesia's 2015 fire crisis would occur each year in the counterfactual. The 2015 fire in Indonesia was a particularly devastating and costly disaster that does not occur on an annual basis. This parameter was overestimated, leading to over 3 million USD in economic benefits each year attributable to the EMM and WWF grants.

COSTS

There were two main categories of costs. The first were costs related to each benefit stream (typically operation, maintenance, etc.) identified in Table 8 above; these were generally static over the 20-year period and were not adjusted for inflation. In some instances, it was assumed that production would increase as a result of the grant but without an accompanying cost increase which may inaccurate (for example, rubber farmers participating in the EMM grant were expected to benefit from a 20 percent increase in productivity but no increase in costs as a result of the grant). The second cost stream was the program cost for MCC, which included the grant itself and MCA overhead. These grant costs seem to capture the costs for canal blocking, hydrant wells, revegetation, and training costs.

DISCUSSION

One of the improvements of the evaluation-based CBA analysis will be the inclusion of a stakeholder analysis. The models in their current form were not designed to report outcomes by stakeholders of interest, nor can they be used to evaluate project sustainability and where incentives for participation should be targeted, for example. The evaluation-based CBA will also refine the approaches to estimating benefits and include other benefit streams that align with the intervention objectives, such as reducing greenhouse gas emissions. Finally, this evaluation will both explore the extent to which benefit streams modelled in the CBA for each grant were appropriate and/or realistic, examining specifically the assumptions discussed above. The approach is outlined in Section 7.2.2 below. Another important point to emphasize is that the ex-ante analyses are based on the theory of change and expected impacts. The evaluation-based CBA (ex-post) will be built on observed changes to date and modified expectations for the future based on current evidence following the conclusion of grant activities.

7.2.2. Proposed Methodology for Evaluation Based Cost-Benefit Analysis of Peatlands

SUMMARY OF APPROACH

The approach to the cost-benefit analysis of peatlands will follow the integrated approach developed by Harberger and Jenkins (2011). Specifically, the analysts will create one integrated model for each of the three successful peatlands grants in order to capture their unique interventions.

Overall all three models will explicitly capture two main activities in the Peatlands portfolio, specifically:

1. Supporting sustainable low carbon livelihoods through the introduction of 'wet tolerant' alternative species that can thrive in wet peatlands and have economic value for local communities.
2. Rehabilitating drained and degraded peatlands through the construction of canal blocking structures to raise the water table to re-wet the peatland.

These activities will be modeled into each of the CBA models in the following analyses:

- Financial Analysis for Beneficiaries and other Stakeholders
- Economic Analysis (ERR analysis)
- Risk/Sensitivity Analysis

The specific approach for each analysis is described in depth in this section.

Each of the three peatlands grants are complex and have a number of interventions associated with each grant. This design report outlines the interventions the CBA could feasibly include, where some aspects of the grant may be implicitly modeled into the CBA, and activities that ought not to be included in the analysis.

The CBA will be analyzed for a period of 20 years. This is a standard unit of analysis and appropriate for capturing the benefits from jelutung, where farmers are not expected to earn revenue on their plantations until 10 years after planting.

Finally, many of the key assumptions, benefits, and costs explained below will be examined directly by the evaluation team to assess the effectiveness of this program. Important findings from the evaluation will be fed directly into the model and any unexpected results or evidence may change some of the assumptions or parameters explained below, before the final report.

FINANCIAL ANALYSIS FROM THE PERSPECTIVE OF THE BENEFICIARIES AND OTHER STAKEHOLDERS

Financial viability, or the capability for these beneficiary smallholder producers to finance and profit from the MCC interventions, is critical for determining whether these practices are affordable on an annual basis. Similarly, the financial incentive for other stakeholders to participate in maintaining the activities from rewetting peatland is vitally important for ensuring sustainability of this intervention.

The following beneficiaries and stakeholders will be included in the analysis:

- **Beneficiary - Smallholder farmers/producers:** Those farmers switching from traditional crops that need dryer conditions to crops that can tolerate wetter conditions (i.e., low-carbon livelihoods). The CBA will not focus on all products promoted under these grants, but only the ones that affect a relatively large share of the beneficiaries - specifically paludiculture (i.e. jelutung and fruit trees), rice production, horticulture production, rubber, and smallholder palm oil for each of the three grants.
- **Beneficiary - Users of biodigesters:** 15 bio-gas digesters were constructed in the EMM project. This model will examine cost savings for beneficiaries from using cattle waste and palm oil effluent (POME) for home cooking use rather than other, more expensive sources of fuel. This model will also examine the costs for maintenance over time.
- **Stakeholder - the Indonesian Government**. The village governments and the National Peatland Restoration Agency (BRG) will sustain investments in the canal blocks, maintain canal upkeep efforts, and ensure the water levels in the peatland remain sufficiently high and the land is revegetated. To do so, they will need to be supported by community tariffs or other income sources.

As with all cost-benefit analysis models, each intervention will be compared to a counterfactual, in order to measure the activity's incremental impact on household incomes.

The specific beneficiary analysis for the smallholder producers will be broken into the following methodological approaches:

- **Beneficiary - Smallholder producers of rice, rubber, coffee and those using low-emission production techniques:** The smallholder farm models have the potential to be quite complex: there are a number of permutations proposed here (in other words, the number of stakeholders for each of the three grant CBAs) and the behavior of the smallholders is not very homogenous. For example, there is evidence that some farmers

are intercropping various crops as they wait for the jelutung trees to become productive and it seems there is not a standard counterfactual for some activities – for examples, farmers switching to paludiculture for the first time were doing a variety of other activities before the project, thereby complicating the estimate for the counterfactual. Additionally, Mitra Aksi trained producers on a number of low emission techniques who cultivate a broad range of agricultural commodities that cannot all be modeled in-depth. As such, we will collect the data on incremental cash flows by directly estimating increased incremental incomes for smallholder farmers as opposed to developing complex production functions to estimate the increased profit margin for small holder farmers.[8] This is an analytic shortcut that can be used when impacts can be observed. In the case of evaluation-based CBA for instance, it lowers the burden of data collection and reduces the chances of making the wrong assumptions when constructing a complex production function. The CBA analysts will work closely with the evaluation team to ensure field data collection follows a carefully constructed set of questions to ask about agricultural productivity or other livelihood activities before the MCA grant, as well as agricultural production after the activity. By coupling this data with market prices, the CBA will be able to construct incremental net cash flows for these farmers without needing to understand all incremental changes in inputs and outputs.

- **Beneficiary - Jelutung or fruit tree producers:** The incremental income model proposed above will likely not be appropriate for the jelutung and the fruit tree plantations in the WWF grant. Many of these plantations are new and incremental revenues are expected to change considerably in the future, and self-reported incomes from producers today will not reflect reality over time as their plantations become productive over time. For example, jelutung is not expected to harvest until 10 years after planting and many of the fruit trees (e.g. avocado, durian, and jackfruit) are expected to produce fruits in 4 years. Therefore, a model based on a production function and expectations for yields over time will be constructed. The CBA team can however obtain estimates on the increase of jelutung and fruit tree plantations to-date.
- **Smallholder palm oil producers:** Smallholder palm oil producers can also be modeled using the incremental income approach. The theory of change behind this intervention is that these producers might continue to burn forest if it were not for the MCA activities. This model will not estimate the amount of land that might have been burned in the counterfactual, but will instead measure the increased incomes for palm oil producers (in the EMM and WWF models), which may provide evidence whether incomes have sufficiently increased to disincentivize burning more peat.

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[8] For example, the production function approach would seek to understand all inputs and input prices for counterfactual and with project farm budgets. This would include all estimated changes in seeds, fertilizer, pesticides, labor, animal labor, land costs, and other inputs and what the expected output should be with these combinations of inputs.

Taking these costs and benefits into account, inward and outward cash flows will be calculated to determine which combination of interventions directly contribute to achieving incremental increases in financial welfare for smallholder farmers and other key stakeholders.

ECONOMIC ANALYSIS (ERR ANALYSIS)

In addition to assessing the incremental costs and benefits at the beneficiary and stakeholder level (in the financial analysis), the model will also assess the incremental costs and benefits of each grant from the perspective of the economy. To do this, the financial cash flows from each stakeholder will be aggregated for the economic analysis, and financial cash flows will be adjusted to economic resource flows by removing market distortions from the market prices (such as taxes and subsidies).

A few additional benefit and cost streams will be included in the economic analysis:

- **Avoidance cost of fire and flooding:** Rewetting and revegetating the peatlands was funded by MCA and the grantees and will be included in the economic analysis. This will include the investment costs such as building the canal blocks and the hydrant wells. These efforts are expected to manifest themselves as benefits to the community and economy by reducing the likelihood of flooding and fires and GHG emissions (discussed below). These likely benefits will be modeled into the economic analysis to the extent that the evaluation team provides evidence that the water tables are rising. Overestimating these benefits can quickly and artificially inflate the economic benefits associated with the peatland grants, so conservative assumptions will be made where reasonable data exist to accurately estimate any incremental reduction in fires and flooding as a result of the grant activities. Estimates are available in Indonesia for the costs of fires and flooding[9] - the challenge will be to attribute a change in the likelihood of these natural events to the Peatland grant models. The ex-ante CBAs calculated the total cost of fire events on a linear per hectare basis, and assumed an equivalent reduction in costs for each hectare of rehabilitated land as a result of the project. The ex-post CBA will not assume there are fires on an annual basis but will annualize the costs of fires expected over a 20-year time period. This analysis will also use much lower estimates for the cost of fire. These assumptions will be tested with sensitivity analysis. This benefit will be calculated for all three grants, where appropriate.
- **Reduction in GHG Emissions:** Several of the grants have already made estimates for reduced GHG emissions as a result of their activities (including from rewetting and also activities aimed to discourage land burning by smallholder producers). Valuing these reductions will rely on internationally accepted standards of valuation for GHG emissions. The **social cost of carbon** has conventionally been estimated from a global perspective,

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[9] See for example: World Bank Group (2016), The Cost of Fire: An Economic Analysis of Indonesia's 2015 Fire Crisis, Indonesia Sustainable Landscapes Knowledge Note: 1.

making it difficult for it to enter CBA models from a single country's perspective. MCC has generally excluded the social cost of carbon from its CBA models on the basis that the scope of its analysis is limited to the estimation of ERR from the country's point of view (i.e. 'the global economy' is not included as a stakeholder). New research has resulted in models that can generate the social cost of carbon from a single country's perspective. These studies move beyond weighing the cost by population or area of the country and estimate the actual impacts of climate change on the economic well-being of the country based a wide range of socio-economic, industrial, and geospatial parameters. A recent study allows for the estimate the social cost of carbon for Indonesia.[10] One potential concern regarding the inclusion of GHG emission reductions is that climate-driven economic damages (such as fires) are reflected in the calculation of the social cost of carbon. Including GHG emissions as they are, along with fire risk reductions, will result in double counting. Using the available evidence, and where possible, the team will directly adjust the social cost of carbon estimate for double counting. While failing to account for this will lead to an overestimation of benefits, it is important to note that the benefit of future fire risk reduction via reduced GHG emissions will be heavily discounted as compared to the more direct fire risk reductions through rewetting.

- **Grant investments:** Finally, each model will include the key investments made using the grant and leveraged funds. This will include costs associated with all activities for each grant including building canal blocks, hydrant wells, training the farmers, capacity building for government institutions, etc. This will also include an estimated share of MCA's overhead on this project.

Other unintended expenses will be examined as well. For example, the program reports suggest that canal blocking may add costs to the community because they can no longer use the canals for transportation. This will be examined in the data collection process and if this has happened, increased travel costs will be included in the economic analysis.

In summary, the three grant models for the ex-post CBAs will follow the activities in Table 12 below.

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[10] Ricke, Katharine, Laurent Drouet, Ken Caldeira, and Massimo Tavoni. (2018). Country-level social cost of carbon. Nature Climate Change, Volume 8, pages 895–900. Indonesia specific information on website located here: https://country-level-scc.github.io/cscc-web-2018/#/cscc?ssp=SSP2&rcp=rcp60&dmg=bhm_sr&discounting=growth%20adjusted&iso3=IDN

Table 12: Ex-post CBA Models Overview

	WWF	EMM	Mitra Aksi
Key benefits in economic model	• Increased income/revenue (rubber, palm oil, coffee, fruit trees) • Fire risk reductions • GHG emission reductions	• Increased income/revenue (jelutung, rubber, palm oil) • Cost savings from biodigesters • Fire risk reductions • GHG emission reductions	• Increased income/revenue (as a result of applied biopesticides, organic fertilizer, and reduced burning) • Fire risk reductions • GHG emission reductions
Time period	20 years		
Discount rate	10%		

SENSITIVITY ANALYSIS

Variability in the financial and economic results will be assessed by performing sensitivity tests on key variables and assumptions to determine the risk of the overall investment in each combination of interventions. Sensitivity tests will be completed using one- and two-way tables to measure how differences in each variable or assumption may impact the overall results reported under the financial and economic analysis. Additionally, Monte Carlo simulations will be constructed based on available data for the variability in the parameters estimated in the model.

Sensitivity tests, at a minimum, will likely be run on all assumptions for increased agricultural productivity, assumption on GHG reductions, and assumptions for incremental reductions in fire and flooding.

BENEFIT AND COSTS STREAMS IN THE CBA

In summary, the approach will include the following benefit and costs streams discussed above for both the financial beneficiary and stakeholder analyses and the economic analysis:

Table 13: Benefits, Costs, and Stakeholders

Impacts	Smallholder farmers/producers	Gov. of Indonesia (including BRG)	MCA I and Grantee	Indonesia (economic analysis)
Benefits				
Improved net income for smallholder producers	✓	✓		✓
Net cost savings from biogas digesters	✓			✓
Reduction in GHG emissions				✓

Impacts	Smallholder farmers/producers	Gov. of Indonesia (including BRG)	MCA I and Grantee	Indonesia (economic analysis)
Reduced damages from fire and flooding				✓
Costs				
Replanting substitute species suitable for peatland (e.g. jelutung, fruit trees)	✓	✓	✓	✓
Rewetting the peatlands (canal blocks, hydrant wells, revegetation)		✓	✓	✓
Training the producers and capacity building and technical support for institutions	✓		✓	✓
Transfers				
Grant	✓+	✓+	✓-	
Canal upkeep and maintenance	✓-	✓+		

ASSUMPTIONS IN THE CBA

There are a number of critical assumptions that will be built into the model. First of all, MCA grantees also invested in capacity building, strengthening institutional foundations, and technical support for BRG and other government bodies as well as mapping peatlands, delineating political boundaries that encompass natural and degraded peatlands in the GoI and BRG priority landscapes. These efforts are meant to encourage proper land use planning processes and regulatory frameworks that institutionalize sustainable peatland management practices in all levels of government. Additionally, by building capacity in BRG and other government bodies, Indonesia has the capacity to manage peatlands for years to come. The costs associated with these efforts will be modeled explicitly into the CBA, and the benefits will be modeled implicitly as an assumption that these benefits from restored peatlands will continue into the future – specifically, that wet tolerant species will continue to thrive and smallholder farmers will continue to benefit from the associated economic activities based on these species. This implicit assumption will be examined as part of the evaluation.

Additionally, the financial management committee's incentive to continue to maintain the canals will be explicitly modeled in the financial analysis in order to measure how financially viable this operation will be. However, the program documents have highlighted concerns about the short-term viability of funding the upkeep given that the receipts from the paludiculture producers are not expected for about 10 years. Furthermore, without continued buy-in from the community, the assumption that the canals will remain completely or partially blocked will fall apart. Finally, exogenous factors such as whether these dams hold after heavy rains will also affect the long-term sustainability, and will need to be reconsidered in how it is modeled.

Another key assumption is whether, in fact, these activities lead to a reduction in fires and flooding. This will depend on how much the water levels increase, and to what extent the peat forests have been rehabilitated. These assumptions are being explored by the evaluation and any findings that the current levels are unlikely to have an impact of the incidence of fires and floods will then be built into the model.

The table below lists these and all other key assumptions in the CBA model and how these assumptions are reflected in the CBA.

The results of the financial and economic analyses will be reported in net present value (NPV) terms as well as in financial and economic rates of return (IRR and ERR, respectively) for each of the three grants.

Table 14: Assumptions to be Verified

Assumptions	Part of the CBA where assumption will be applied	Likely source of evidence supporting or refuting the assumption
Political will and investment will ensure the peatland will continue to re-wet and remain wet over the medium-term	Assumption of sustainability of investments	FGD interviews and assessment from the evaluation team
The Village Government will maintain the canals and has the ability and community buy-in to repair dams	Assumption of sustainability of investments Assumption of financial viability	FGD interviews and assessment from the evaluation team
Water levels have increased in the peat areas and will lead to a reduction in fires, flooding, and GHG emissions	Assumption of economic benefits associated with rewetting	Assessment from the evaluation team
Increased smallholder incomes	Assumption of financial viability for smallholder producers	FGD and IDI interviews

BENEFIT AND COSTS STREAMS NOT INCLUDED IN THE CBA

Not all activities under each grant can be modeled in the CBA. For example, some activities in the grants included preparing engineering and hydrology studies and designs (DEDs) in these target areas for other donors/investors to use post compact. The CBA will not build in an assumption of future donor or other investments that may benefit from the investments of the MCC GP hydrology studies and designs as it extends beyond the scope of a traditional CBA. Other activities funded sharing of lessons learned national and internationally and encouraged the enabling environment to support future activities; all of which likely have benefits but will not be modeled in the CBA.

7.3.   Evaluation Budget

Budget Peatlands for inclusion in EDR – updated to reflect through Jan 31, 2019

Task No.	Task	Estimate per Progress Report	Actual Cost through 1/31/19	Projections		Total Est. at Completion
				CLIN 0002	CLINs 1002 and 1004	
1	Work Plan	2,754.86	2,749.28	-	-	2,749.28
1.2	Peatland Task 1: Develop Evaluation Design Report	57,904.25	79,721.05	449.24	-	80,170.29
2.2	Peatland Task 2: Develop Evaluation Materials	4,523.20	936.56	3,586.64	-	4,523.20
3.2	Peatland Task 3: Undertake Evaluation data collection	199,893.40	9,477.65	113,677.45	54,477.85	177,632.95
4.2	Peatland Task 4: Develop Final Report	48,446.53	-	20,551.66	27,894.87	48,446.53
5.2	Peatland Task 5: Disseminate Final Report	1,245.68	-	1,245.68	-	1,245.68
TOTAL		314,767.92	92,884.54	139,510.67	82,372.72	314,767.93

7.4. Instruments

Consent Statement

Grantee KII Protocol

FGD Guide

CONSENT STATEMENT

"Hello, my name is *[enumerator name]*, and I work for Integra LLC, a management consulting firm based in the Washington D.C. area. We are currently conducting an evaluation of the peatlands portfolio from the Green Prosperity Project (GP Project) of MCC Indonesia, which aims at stopping the environmental degradation and reducing the poverty among rural communities in the country. The Millennium Challenge Corporation (MCC), an institution from the United States (USA) that provides assistance to project developments undertaken by various countries, funds our work.

This GP Project is designed to support commitments of the Government of Indonesia toward the future of sustainable carbon efficiency by promoting an environmentally friendly, low-carbon economic growth. This report will not include anyone's name or identity, however. Our researchers will remove your name and other personal identifying information from documentation from this interview that will be saved for analysis.

If you agree to participate, I will ask you about your individual interactions with the Project. You were selected for participation in this key informant interview based on your knowledge of the project. These interviews are expected to take around 60-90 minutes to complete.

The information collected will be used for research purposes only, so please answer honestly.

Your participation is voluntary and you may choose not to answer any or all questions for any reason. You may ask questions at any time. This study poses no risk to participants. The final evaluation report will be publicly available after completion.

You may contact Mr. Matthew Addison, the Project Director at maddison@integrallc.com. If you have any questions, concerns or complaints about the study or your rights as a participant, please feel free to contact us at any time.

Do you have any questions?

By saying "yes," and participating in this study, you are indicating that you have heard this consent script, had an opportunity to ask any questions about your participation and voluntarily consent to participate.

Will you participate in this research study? You may answer yes or no. *[Note: consent will be obtained orally]*

☐ Yes, I am willing to participate

☐ No, I am not willing to participate

KII GUIDE – MCA-I STAFF

Interview Tracking Data – *To be completed by the data collector prior to the KII*

Instructions: *Read the consent statement and offer respondents the opportunity to ask questions. Have copies of the statement available in case the respondent prefers to read it. Once they have provided consent, proceed with the interview.*

Date:	
Location:	
Interviewer:	
Respondent Information	
Name:	
Role/Position/Relation to Project:	
Sex:	
Contact Information:	

1(a). What were the GP objectives with regard to peatland restoration? How were the grants that were awarded supposed to achieve these objectives?
2(a). What were the engineering inputs? How were construction methods selected?
2(a). How were the sites selected?
2(a). How were stakeholders engaged in selection?
2(a). What are the long-term maintenance requirements of structures, and who is responsible?
2(a). Was there any environmental damage as a result of the construction? If so, how was it addressed?
2(a). Did GP improve the capacity in selected districts to sustainably manage peatlands? How was capacity built in central, provincial and district governments, and at the village level, to sustainably manage peatlands? What training was provided, and to whom? (Are there records?) What training materials are available? (Can we see them?). Can you tell us how many trainees were men and how many were women?
2(a). What maps were produced of the wetlands and their environs? Who has them? (Can we see them?). How are they being used?
2(a). Were the GHG estimation tools transferred to GoI? How are they being used?
2(b). What administrative barriers did you observe? What permits and permissions were required to do the work? Were there any problems getting them? How did you overcome them? Were there any changes to administrative processes as a result of GP interventions?
2(c). Were there any legal processes that had to be addressed (e.g., land registration, environmental impact, health and safety regulations etc.)? How did you address them? Were there any that were impossible to resolve?
2(d). What were the most important skills that implementers needed to achieve the GP goals? Did they have them? Did they acquire these skills during the course of implementation? If not, why not?

3(a). How did targeted communities perceive the project? Was there conflict?
3(b). Did the communities learn how to properly build dams to block canals (WWF)? Are they likely to build more on their own? Is that desirable?
3(c). Where heavy equipment was used to block canals, what were the advantages and disadvantages from the government perspective? From the community perspective?
3(d). Were there any unexpected outcomes or surprises when blocking the canals?
3(e). What was the impact of zoning and mapping? Were there measurable changes in the environment? If yes, please describe.
3(f). What changes in peatland vegetation have been observed as a result of the project? (please describe). What data is available that can quantify these changes? (Can we get the data?)
3(g). What changes have been observed in community economic activity as a result of the project? Could these be described as alternative livelihoods? What data is available that can quantify these changes?
3(h). Please describe fire activity in the peatlands since the project ended. Can you attribute any changes in fire to project interventions? Are they significant changes? (Please describe). What data is available that can quantify these changes? Given the short amount of time since the rewetting, is it possible to attribute changes to fire to the project?
4(a). Are the canal closures permanent? Have any measures been put in place to ensure that the closures are permanent? What else needs to be done?
4(b). How many dams are still in place and functional? Is the amount of land rewetted established, or is it still an evolving situation? If it is evolving, what are the trends? Is this due to the canal closures or other factors? (Is there data?)
4(c). What percentage of wet-tolerant species planted by the project remain? Has this been measured, and is there data? To what do you attribute the survival (or lack of survival) of the trees planted? Do the peatland communities find the species planted to be beneficial? Please describe.
4(d). Was BRG able to adopt and utilize the analytical tools, including the mapping and the detailed engineering designs (DEDs) and other donor proposals provided to them? What is the likelihood of BRG's continued use of these tools? On what do you base this estimate? What was the impact of training? How was that impact measured?

Conclusion: *Before concluding the interview, ask: "Is there anything else you would like to add?" Once the interview is over, thank the respondent for their time.*

KII GUIDE – SUCCESSFUL GRANTEE

Interview Tracking Data – *To be completed by the data collector prior to the KII*

Instructions: *Read the consent statement and offer respondents the opportunity to ask questions. Have copies of the statement available in case the respondent prefers to read it. Once they have provided consent, proceed with the interview.*

Date:	
Location:	
Interviewer:	
Respondent Information	
Name:	
Role/Position/Relation to Project:	
Sex:	
Contact Information:	

Semi-Structured Interview Questions

Instructions: *The questions include below follow a semi-structured interview process and should be used to supplement and/or elaborate on the evaluation questions. Several questions may yield responses that overlap with other questions; use discretion in order to ensure the interview is purposeful and not unnecessarily repetitive or burdensome, with respect to the interviewees' time and area of knowledge.*

1(a). What is your understanding of the GP objectives for peatland restoration? How did your project approach these objectives?
2(a). How were your construction methods selected?
2(a). How were your sites selected?
2(a). Describe your process for engaging with stakeholders in selection and design?
2(a). How durable are the structures you built? Are there long-term maintenance requirements? If so, what if any provisions are in place to conduct the maintenance and who is the responsible party?
2(a). Please describe any environmental impact from the construction. What any mitigation required? If so, please describe.
2(a). How did your project build capacity for sustainable peatlands management? Please describe your strategy and give details on what training was given. Was there a gender strategy for capacity development? Was that strategy implemented? Is there gender-disaggregated data on capacity development? Can you contrast the capacity at the beginning of the project with capacity at the end? Did you produce any training resources and are they still in use? By whom?
2(b). Did you encounter administrative barriers (e.g., permits and permissions) in the course of implementing the project? Were they significant, and if so, what did you do to overcome them? What help did you require (e.g., for higher level policy changes)? What advice would you give to those implementing similar projects going forward?

2(c). Were there any legal processes that had to be addressed (e.g., land registration, environmental impact, health and safety regulations etc.)? How did you address them? Were there any that were impossible to resolve?
2(d). Were the skills that you brought to the project adequate to the job? What additional skills did you need, and what did you do to acquire them? What advice would you give to those implementing similar projects going forward?
3(a). What reception did you receive from targeted communities? Did they embrace the project, or did they have to be convinced? Was there conflict? What strategies did you use to get their support? How well did they work? What advice would you give to those implementing similar projects going forward?
3(b). Did the communities learn how to properly build dams to block canals (WWF)? Are they likely to build more on their own? Is that desirable?
3(c). Where heavy equipment was used to block canals, what were the advantages and disadvantages from the government perspective? From the community perspective?
3(d). Were there any unexpected outcomes or surprises when blocking the canals?
3(e). What was the impact of zoning and mapping? Were there measurable changes in the environment? If yes, please describe.
3(f). What changes in peatland vegetation have been observed as a result of the project? (please describe). What data is available that can quantify these changes? (Can we get the data?)
3(g). What changes have been observed in community economic activity as a result of the project? Could these be described as alternative livelihoods? What data is available that can quantify these changes?
3(h). Please describe fire activity in the peatlands since the project ended. Can you attribute any changes in fire to project interventions? Are they significant changes? (Please describe). What data is available that can quantify these changes? Given the short amount of time since the rewetting, is it possible to attribute changes to fire to the project?
4(a). Are the canal closures permanent? Have any measures been put in place to ensure that the closures are permanent? What else needs to be done?
4(b). How many dams are still in place and functional? Is the amount of land rewetted established, or is it still an evolving situation? If it is evolving, what are the trends? Is this due to the canal closures or other factors? (Is there data?)
4(c). What percentage of wet-tolerant species planted by the project remain? Has this been measured, and is there data? To what do you attribute the survival (or lack of survival) of the trees planted? Do the peatland communities find the species planted to be beneficial? Please describe.
4(d). Did your interventions benefit BRG? Other agencies? If so, how? If there was technology transfer, what indications do you have that it is sustainable?

Conclusion: *Before concluding the interview, ask: "Is there anything else you would like to add?" Once the interview is over, thank the respondent for their time.*

KII GUIDE – GOI STAFF

Interview Tracking Data – *To be completed by the data collector prior to the KII*

Instructions: *Read the consent statement and offer respondents the opportunity to ask questions. Have copies of the statement available in case the respondent prefers to read it. Once they have provided consent, proceed with the interview.*

Date:	
Location:	
Interviewer:	
Respondent Information	
Name:	
Role/Position/Relation to Project:	
Sex:	
Contact Information:	

Semi-Structured Interview Questions

Instructions: *The questions include below follow a semi-structured interview process and should be used to supplement and/or elaborate on the evaluation questions. Several questions may yield responses that overlap with other questions; use discretion in order to ensure the interview is purposeful and not unnecessarily repetitive or burdensome, with respect to the interviewees' time and area of knowledge.*

1(a). What were the GP objectives with regard to peatland restoration? How were the grants that were awarded supposed to achieve these objectives? How did the grants align with GoI objectives?
2(a). What were the engineering inputs? How were construction methods selected?
2(a). How were the sites selected?
2(a). How were stakeholders engaged in selection?
2(a). What are the long-term maintenance requirements of structures, and who is responsible?
2(a). Was there any environmental damage as a result of the construction? If so, how was it addressed?
2(a). Did GP improve the capacity in selected district to sustainably manage peatlands? How was capacity built in central, provincial and district governments, and at the village level, to sustainably manage peatlands? What training was provided, and to whom? (Are there records?) What training materials are available? (Can we see them?). Can you tell us how many trainees were men and how many were women?
2(a). What maps were produced of the wetlands and their environs? Who has them? (Can we see them?). How are they being used?
2(a). Were the GHG estimation tools transferred to GoI? How are they being used?

2(b). What administrative barriers did you observe? What permits and permissions were required to do the work? Were there any problems getting them? How did you overcome them?
2(c). Were there any legal processes that had to be addressed (e.g., land registration, environmental impact, health and safety regulations etc.)? How did you address them? Were there any that were impossible to resolve?
2(d). What were the most important skills that implementers needed to achieve the GP goals? Did they have them? Did they acquire these skills during the course of implementation? If not, why not?
3(a). How did targeted communities perceive the project?
3(b). Did the communities learn how to properly build dams to block canals (WWF)? Are they likely to build more on their own? Is that desirable?
3(c). Where heavy equipment was used to block canals, what were the advantages and disadvantages from the government perspective? From the community perspective?
3(d). Were there any unexpected outcomes or surprises when blocking the canals?
3(e). What was the impact of zoning and mapping? Were there measurable changes in the environment? If yes, please describe.
3(f). What changes in peatland vegetation have been observed as a result of the project? (please describe). What data is available that can quantify these changes? (Can we get the data?)
3(g). What changes have been observed in community economic activity as a result of the project? Could these be described as alternative livelihoods? What data is available that can quantify these changes?
3(h). Please describe fire activity in the peatlands since the project ended. Can you attribute any changes in fire to project interventions? (Please describe). What data is available that can quantify these changes?
4(a). Are the canal closures permanent? Have any measures been put in place to ensure that the closures are permanent? What else needs to be done?
4(b). How many dams are still in place and functional? Is the amount of land rewetted established, or is it still an evolving situation? If it is evolving, what are the trends? Is this due to the canal closures or other factors? (Is there data?)
4(c). What percentage of wet-tolerant species planted by the project remain? Has this been measured, and is there data? To what do you attribute the survival (or lack of survival) of the trees planted? Do the peatland communities find the species planted to be beneficial? Please describe.
4(d). How did BRG benefit from GP? How did it use the maps, engineering designs, and other resources that GP provided? Were the interventions well-calibrated to BRG needs? Did the training substantially improve BRG capacities? Will BRG continue to use the tools and training provided going forward? If not, why not? Are any other government agencies using tools and processes developed with GP support? What is BRG's role in ensuring the viability and sustainability of peatland activities? National to local-level. Do you believe that BRG will engage in these activities moving forward? What are the biggest risks going forward?

4(e). Do you have the resources (financial and people) to maintain canals? How much do you expect this to be per year moving forward (in money and in people)? Do you anticipate any role in maintaining the revegetation of the peatlands? Who replaces dead seedlings?

How much do you expect this to be per year moving forward (in money and in people)? Do you anticipate this arrangement will change over time as the communities begin to gain higher income from the wet species in the forest? What is lacking?

Do you anticipate that there is a sufficient input market for items like seedlings or an output market for processing the latex or rubber?

Will you be engaged in other rehabilitation activities? How? If so, how much do you think it might cost per year?

Conclusion: Before concluding the interview, ask: "Is there anything else you would like to add?" Once the interview is over, thank the respondent for their time.

KII GUIDE – COUNTERPART / EXTERNAL STAKEHOLDER

Interview Tracking Data – *To be completed by the data collector prior to the KII*

Instructions: *Read the consent statement and offer respondents the opportunity to ask questions. Have copies of the statement available in case the respondent prefers to read it. Once they have provided consent, proceed with the interview.*

Date:	
Location:	
Interviewer:	
Respondent Information	
Name:	
Role/Position/Relation to Project:	
Sex:	
Contact Information:	

Semi-Structured Interview Questions

Instructions: *The questions include below follow a semi-structured interview process and should be used to supplement and/or elaborate on the evaluation questions. Several questions may yield responses that overlap with other questions; use discretion in order to ensure the interview is purposeful and not unnecessarily repetitive or burdensome, with respect to the interviewees' time and area of knowledge.*

1(a). What were the GP objectives with regard to peatland restoration? How were the grants that were awarded supposed to achieve these objectives? How did the grants align with GoI objectives?
2(a). How do you think that sites and methods were selected for wetland rewetting? Was it effective? Please describe.
2(a). What do you know about the process for stakeholder engagement? Was it effective? Please explain.
2(a). Do you think that the canal closures are durable? If not, why not? What should be done? If the closures are durable, can this experience be replicated? Please explain.
2(a). Did you observe any environmental impacts from the construction? Was anything done about it?
2(a). Was capacity built by the project? Please describe. Do you think that the process was inclusive of women?
2(a). Are you aware of maps produced by the project? Are they still in use? Are they useful? (please explain).
2(b). Are you aware of any administrative barriers that the project encountered? If yes, please describe, including any information you have on how these barriers were addressed.

2(c). Are you aware of any legal or regulatory barriers that the project encountered? If yes, please describe, including any information you have on how these barriers were addressed.
2(d). Did project implementers have the necessary skills to achieve the desired results? If not, what did they do about it? What were the most important skills for a project of this type?
3(a). How did communities receive the project interventions? Were the implementers effective in engaging the communities? Was there conflict?
3(b). Did the communities learn how to properly build dams to block canals (WWF)? Are they likely to build more on their own? Is that desirable?
3(c). Where heavy equipment was used to block canals, what were the advantages and disadvantages from the government perspective? From the community perspective?
3(d). Were there any unexpected outcomes or surprises when blocking the canals?
3(e). What was the impact of zoning and mapping? Were there measurable changes in the environment? If yes, please describe.
3(f). What changes in peatland vegetation have been observed as a result of the project? (please describe). What data is available that can quantify these changes? (Can we get the data?)
3(g). What changes have been observed in community economic activity as a result of the project? Could these be described as alternative livelihoods? What data is available that can quantify these changes?
3(h). Please describe fire activity in the peatlands since the project ended. Can you attribute any changes in fire to project interventions? Are they significant changes? (Please describe). What data is available that can quantify these changes? Given the short amount of time since the rewetting, is it possible to attribute changes to fire to the project?
3(i). Do you anticipate any role in maintaining the revegetation of the peatlands? Who replaces dead seedlings? Who maintains the canals and how is this done?
4(a). Are the canal closures permanent? Have any measures been put in place to ensure that the closures are permanent? What else needs to be done?
4(b). How many dams are still in place and functional? Is the amount of land rewetted established, or is it still an evolving situation? If it is evolving, what are the trends? Is this due to the canal closures or other factors? (Is there data?)
4(c). What percentage of wet-tolerant species planted by the project remain? Has this been measured, and is there data? To what do you attribute the survival (or lack of survival) of the trees planted? Do the peatland communities find the species planted to be beneficial? Please describe.
4(d). Did your interventions benefit BRG? Other agencies? If so, how? If there was technology transfer, what indications do you have that it is sustainable?

Conclusion: *Before concluding the interview, ask: "Is there anything else you would like to add?"*
Once the interview is over, thank the respondent for their time.

KII GUIDE – VILLAGE LEADER/SMALLHOLDER FARMER/COMMUNITY BENEFICIARY

Interview Tracking Data – *To be completed by the data collector prior to the KII*

Instructions: *Read the consent statement and offer respondents the opportunity to ask questions. Have copies of the statement available in case the respondent prefers to read it. Once they have provided consent, proceed with the interview.*

Date:	
Location:	
Interviewer:	
Respondent Information	
Name:	
Role/Position/Relation to Project:	
Sex:	
Contact Information:	

Semi-Structured Interview Questions

Instructions: *The questions include below follow a semi-structured interview process and should be used to supplement and/or elaborate on the evaluation questions. Several questions may yield responses that overlap with other questions; use discretion in order to ensure the interview is purposeful and not unnecessarily repetitive or burdensome, with respect to the interviewees' time and area of knowledge.*

1(a). What was the purpose of [project name]? Did it make sense to you, based on your knowledge?
2(a). Why did the project select your location to block a canal?
2(a). How did the project implementers introduce the idea? Did they ask for your support? What do you like or dislike about how they consulted you?
2(a). How long did it take to block the canal?
2(a). Are these canal closures permanent? How do you feel about that? Are you happy to have the peatland be rewetted?
2(a). How has the canal blocking affected the time required to travel? Do you have to pay any fees for access to water?
2(a). Did the construction itself change the land? Please explain.
2(a). Did your community receive any training? Did you personally? Describe the training. Was it useful? Did you see any efforts to engage women in your community? Please explain.
2(a). Were any maps produced? Do you have access to them?
2(b). Did you observe the project encounter any administrative barriers? Where did they come from? Were they at the community level?

2(c). Did you observe the project encounter any legal barriers? Did you use the law to block the project or to improve the benefits that the community received? Please describe.

2(d). Did the project implementers seem to know what they were doing? Did they have the skills necessary to rewet the peatlands? Please describe.

3(a). What was the community's attitude towards the project? Did it change over time? Where you appropriately consulted? Please explain.

3(a).

3(a). **for jelutung (EMM) or fruit trees (WWF) producers only:**
- How big is your plantation?
- Did you pay for the seedlings or were they given to you?
- Are you intercropping? If so, how much are you producing?
- How much time does your plantation require? What do you have to do to maintain your trees? If prompt is needed, as about fertilizer, weeding, removal of climbers, etc. (for each step, ask about the money and labor involved).
- Has your income changed since you had the plantation? (please explain)
- Are you receiving financial assistance to ensure that your trees survive? From governments or NGOs?

3(a). **For rice growers (Mitra Aksi) only:**
- How have you changed your production technique as a result of the training you received?
  - [for each change, ask about money and time required for this change]
- Are you doing a second harvest of rice? If so, what were you doing that before during the dry season?
- How much did you produce before? How much are you producing this year? (in kg)
- What is the market price of rice?

3(a). **For smallholder farmers engaging in palm oil production (EMM and WWF), horticulture (Mitra Aksi)**
- Have you stopped burning your fields? If so, what are your reasons for it and how has it changed your production?
- What kind of fertilizer are you using? [If they have switched to organic fertilizer] How long does it take for you to make organic fertilizer? What did you use to use for fertilizer?
- What kind of pesticide are you using? [If they have switched to bio-pesticides] How long does it take for you to make bio-pesticides? What did you use to use for pesticides?
- Have there been any other changes as a result of the training you received?
- How much (in kg) did you use to produce before these activities? How much of do you produce now?
- If there is a change, can you explain why there was a change?
- What are the market prices for your commodities?

3(a) *For EMM area biogas producers/consumers only:* *Were you involved in biogas-digester development?*
- How much time did it take for the biogas digester construction? [How much?]
- Have you made any changes to your lifestyle as a result of the biogas digester?
- Before the project, in an average week, how much fuel did you collect for cooking? How long did it take you?
- Before the project, in an average week, how much fuel did you buy? How much did it cost?
- Now that you have the bio-gas digester, how long does it take you to collect the fuel?
- Do you still collect other fuel for other cooking sources? If so, how long does it take you in an average week these days?
- Do you still buy fuel for other cooking sources? If so, how much does it cost in an average week these days?
- Do you have to pay to use the bio-gas digester? If so, how much?

3(a). for coffee producers (WWF) only
- How have you changed your production techniques since the project?
    - [for each change, ask about money and time required for this change]
- How much did you produce before? How much are you producing this year? (in kg)
    - If there is a change, can you explain why there was a change?
- Have you been able to get a better price for your coffee fruit?
    - If so, why?
    - If so, what price did you get before the project? What price are you getting now?

3(b). Did your community learn how to block canals and rewet peatlands? Are you likely to do so on your own?

3(c). Was heavy equipment used? Was this an effective approach? What would you have done differently?

3(d). Were there any unexpected outcomes or surprises when blocking the canals?

3(e) How was the land that has been revegetated used before the plantings?

3(e). As a result of zoning, did you observe any changes in the environment? Do you believe that these activities have had an impact on how much land is deforested near your community? If yes, please describe.

3(f). Did you observe changes in peatland vegetation as a result of the project? (Please describe). Can you show some of these changes?

3(g). As a result of the peatland activities, do you believe your income will change? If so, how and why? What changes have you seen in the community as a result of this project? Do these changes mean that people are supporting themselves (earning an income etc.) differently now than they did before the project? Can you show some examples?
3(h). Have you noticed any changes with regard to fire and flooding in peatlands since the project ended? How has fire and flooding affected your community in the past? Do you believe that this project will change this impact? To what do you attribute these changes? Please explain.
4(a). Are the canal closures permanent? Who will maintain the closures and how will they finance this effort? Do you want the closures to be permanent?
4(a) **For EMM area biogas users only:** Now that the project is over do you believe you face additional challenges? Do you believe you are seeing benefits from the project now? Do you believe that you will be able to continue to see those benefits now that the project is over? What are the necessary steps to maintain bio-gas digesters [Inputs, labor]? Who is responsible for maintaining these digesters? Do you believe they will be maintained? Did the community have to help pay for the digesters when they were first installed?
4(b). Of the dams that you are aware of, which are still functional? Do you see trends in peatland rewetting? Can you explain what is causing these changes? Please explain.
4(b). What are the plans to maintain the canal blocks? What support are you receiving (if any) and from where? How much do you think the community/government will need to contribute (in money or labor) to maintain the canals per year?
4(c). How many years before the trees planted by the project will produce any harvest? What are the annual costs you will incur to protect these seedlings until they produce? And how will you sustain these costs until the trees begin to harvest? Do you anticipate any role in maintaining the revegetation of the peatlands? Who replaces dead seedlings?
4(c). How much of the trees planted by the project remain? Are they desirable trees? Would you rather replace them? If so, what would you replace them with?
4(c). Do you anticipate that there is a sufficient input market for items like seedlings or an output market for processing the latex or rubber?

Conclusion: *Before concluding the interview, ask: "Is there anything else you would like to add?" Once the interview is over, thank the respondent for their time.*

7.5. MCC Comments on THE Draft EDR

Reviewer Name/ Institution	Page Number (of EDR V1)	Comment	Evaluator Responses
Desai	General	Please be sure the report includes the following statement on the first or cover page of the report: "The views and opinions expressed herein are those of the author(s) and do not necessarily represent those of MCC or any other U.S. Government entity."	Noted. This statement was in the header of the first page of the report. It has been moved into the body for greater visibility.
MCC/GSI	General	Was the project level SGIP implemented well? Did it help increase women's access to and benefits from the projects? What benefits did women and men receive - any increase in income, awareness of peatland protection, improved voice in the communities?	this is outside the SOW of the contract, per our discussions.
Desai/Kathy Farley	Overall	A component that is missing is regarding the support provided to BRG to map peatlands… We'd like to know if/how these maps are used by BRG	Noted and corrected
Desai	1	General comment: We need standard citations throughout EDR (please don't only list the website link). Also, double check the country context section/lit review section to make sure you've cited everything properly.	Noted. Corrective action taken
MCC/GSI	1	the documents states "Direct and indirect barriers exist to Peatland restoration, where land use policy and governance reform can have as meaningful an impact", it will be important to mention what these are? Are these barriers the root causes of peatland destruction? what policy and governance reform would be important?	Edited; direct and indirect barriers are discussed on p18.
Desai	2	Second bullet - date needs to be fixed	fixed

Reviewer Name/ Institution	Page Number (of EDR V1)	Comment	Evaluator Responses
Desai	2	last para - "aspects of the three projects that …" this should be three grants. (This is minor, but important to note that these were 3 grants under the peatland portfolio of the GP Project).	fixed
MCC/GSI	2	"Integra has been tasked to evaluate the design, effectiveness, and the sustainability", Integra need to evaluate the implementation as well, especially the process, staff skills, project participants/community understanding of why peatland needs to be protected and their commitment.	detail is given on page 22. The paragraph on page 2 has been edited and an additional evaluation question added under Grant Implementation in Table 2 (p22)
Kathy Farley	2	first sentence under 1.2.: Peatland priority emerged halfway through the compact. It was a nice coincidence that this initiative/priority lined up with the GP Project objectives and scope. And Grant Agreements with EMM and WWF were already signed by the time the forest fires were raging but early enough in implementation that they could be tweaked to better address GoI priorities.	1.2 first two paragraphs are edited to capture this dynamic.
Kathy Farley	2	second para under 1.2. "Peatland Portfolio": Can we add the mapping and design work in different geographies to this definition? Or at least ask the question were the maps and engineering designs used by BRG?	reference to mapping is added here. This question is specifically addressed in Eval Q 4(d) in Table 2, and we have included specific reference to mapping here as well.
Desai	4	2nd paragraph - "was established and four multi-million-dollar activities were implemented to support…" This should be changed to: 'was established and three multi-million-dollar projects were implemented to support…". There are 4 activities in GP, but the Indonesia compact had 3 Projects (GP, Community based Health, and Procurement	correction made

Reviewer Name/ Institution	Page Number (of EDR V1)	Comment	Evaluator Responses
Kathy Farley	4	first paragraph "first grant agreements were signed in March 2015": Not sure this date is correct. First two cocoa projects were April and June? Please double check. The bulk including the grants in this evaluation were in Dec 2015.	correction made
MCC/GSI	6	EDR states "Outcomes included improved watershed management (improved water quality)". In fact, watershed management is mostly for flood management and water retention in the peatland.	correction made
Kathy Farley	6	first para "GP also aimed to guide foreign investments in Indonesia by improving land-use decisions and creating incentives for increased deployment of cleaner technologies": This language is different from above stated objectives. Have not heard GP described as "guiding foreign investments".	corrected
Kathy Farley	6	second para "The TAPP grant paid for the preparation of project documents such as engineering designs and feasibility studies.": Environmental, social and gender considerations/compliance and risks as well.	corrected
Kathy Farley	6	third para "District Readiness Assessments (DRAs)": First time mentioned – need a description here and/or include above.	adding to 2.1 - researching DRAs first…
Kathy Farley	6	last para - "improved watershed management" : Did we do any of that? Maybe W2?	See Row 14
Kathy Farley	8	para under 2.3.2. "Grant recipients": Just one - EMM	confused - there were 3 grants

Reviewer Name/ Institution	Page Number (of EDR V1)	Comment	Evaluator Responses
Kathy Farley	9	2.3.3. comment on last word "practices": Could add, "In addition MCC funded two contracts that included LIDAR mapping and engineering designs in other critical/priority peatland areas with the understanding that BRG would use these resources to expand their activities and support GoI objective of rewetting significant areas in 2018 and 2019."	added
Kathy Farley	9	2.3.4 comment on "Activities": Why do we say activities? It is three projects/grantees and their sub-components/sub-projects.	fixed
Kathy Farley	9	2.3.4 comment on "prioritized activities" : ? Grantees/projects were selected through a competitive process.	corrected
Kathy Farley	9	2.3.4 comment on "Portfolio": Again, division into portfolios – Peatland, Cocoa, Sustainable Ag, RE came after the dust settled. We basically looked for trends and grouped the projects into portfolios as the most effective way to report results and demonstrate support of GoI objectives. Original division was RE and NRM – very high level and somewhat open ended.	the concept of a portfolio has become reified in usage. We have tried to correct this throughout the document to clarify that the peatland "portfolio" was an emergent feature, and not a design feature.
Kathy Farley	9	2.3.4 comment on "Supporting alternative livelihoods for communities… ": Really? Based on what is this conclusion made.	fixed
Kathy Farley	9	2.3.4 comment on "MCC, as of 2018, made the final deermination for grants that would … included": I believe there were nurseries and farmer training components to both. See project one-pagers already provided.	fixed
Desai	10	It might help to have a table here that lists out all 3 grants, project names, implementers, results, disbursements etc. (similar to On-grid EDR).	Addressed

Reviewer Name/ Institution	Page Number (of EDR V1)	Comment	Evaluator Responses
Desai	10	Remove mention of the 2 unsuccessful grantees under Window 1 - Carbon Tropic and EcoSolutions Lombak. These have nothing to do with Peatlands. This should only focus on the 3 peatland grants previously agreed on.	Corrected
MCC/GSI	10	EDR states "For the purposes of this evaluation, a requirement for inclusion under the Portfolio was that a grantee must have conducted rewetting (i.e., canal blocking) activities as part of their grant. Ancillary activities to support rehabilitation were thusly considered, such as EWS, revegetation/reforestation, and livelihoods." In fact, "EWS, revegetation/reforestation, and livelihoods", are as important as canal blocking activities. Peatland will not be restored sustainability if refoestation is not done by communities and their livelihoods improves. If community is not well aware of the importance of peatland protection, and do not have a livelihood, they will tear down the canal blocking and continue to cut down the forest. Both activities are equally important. So, it will be important to evaluate the outreach, awareness raising and behavior change of the communities, number of local women and men that were trained in revegetation of appropriate plants, and types of alternate livelihoods and potential for increased household income of project participant women and men.	Noted. Adjustments made and questions being reviewed now.
Kathy Farley	10	"There were two unsuccessful grantees under Window 1, Carbon Tropic and EcoSolutions Lombak, which will also be reviewed as part of the evaluation. " : This makes no sense	noted
Kathy Farley	10	Window 1B: Partnership Grants: GA was signed in 2015 but work/implementation did not begin until 2016 which started with a reassessment of fire damage and revision of target areas.	corrected

Reviewer Name/ Institution	Page Number (of EDR V1)	Comment	Evaluator Responses
Kathy Farley	10	Comment on EMM grant data reported in bullet: What about all the other targets related to the above list. Why is this the only number reported. Also believe they reported hectares because we have that in our M&E. Same for WWF.	this is indicative; this is the design report and not the evaluation
Kathy Farley	10	Comment on quote towards bottom of page: Need to include the angle of testing/utilizing new technology/approach that has never been used by the GoI before - requiring permits, legislation, other.	corrected
MCC/GSI	12	Mitra Aksi seemed to have a more holistic approach. It will be good to evaluate which is the 3 grants did a better job, especially possibility of sustainable outcomes.	noted; this is a descriptive section - we will find a way to capture this in the data collection.
Kathy Farley	12	Support to BRG section: Great – this is here. I would label this "Additional Support to BRG" because EMM provided quite a bit under their grant. I think this should be included in the definition of "peatland portfolio"	done
MCC/GSI	13	stakeholders need to include both women and men of the local villages. Evaluation need to capture gender differentiated needs, access, awareness and benefits.	noted.
Desai	14	"Mitra Aksi is considered the sole successful CBNRM grant under the peatland portfolio" - By who?	Mitra Aksi is the only CBNRM grantee - correction made
Desai	14	Third paragraph after 2.3.7. - "First, were costs related ..." - Remove "were" or change to "The first concern were costs related to…"	Thanks - it's changed

Reviewer Name/ Institution	Page Number (of EDR V1)	Comment	Evaluator Responses
Kathy Farley	14	2.3.7 "each of the grants were expected to conduct their own cost-benefit and economic rate of return (ERR) analysis that was to be considered during the grant award process. In reality, this process was facilitated through technical assistance provisions from the GPF after grant awards, rather than prior." : This is not correct. Grantees were not expected to calculate ERRs but rather provide needed data and assumptions needed for MCA/MCA to run ERRs. MCA/MCC challenged and cross-checked assumptions. This is a fatal flaw in the write up and must be addressed. Grant agreements were not signed until after ERRs were calculated and confirmed to be at/over the 10% hurdle rate. For many grantees they were recalculated when project scope/amendments were made.	Sorry about that - changed.
Kathy Farley	14	Comment on "cost-savings through a new technology (EMM),": I don't understand this. Costs are costs as they are two different projects, processes.	What is meant here is that beneficiaries who reduce their costs, as a result of an intervention, have a benefit (i.e., lower costs mean greater income for the beneficiaries). In the case of EMM, the activity included a biodigester. The ex-ante model suggests the biodigester was to reduce the cost of cooking activities to zero (with project) using cattle waste and palm oil effluent (POME) for home cooking use. We pulled in some text into the report in this sentence. Please let us know if that doesn't make sense.
Kathy Farley	14	Comment on "benefit was not explicitly modeled": Because EA did not allow, require.	We made that clarification in the report
Kathy Farley	14	Comment on "MCC overhead": You mean MCA, correct?	Corrected
Kathy Farley	14	EMM's BGPP Project Implementation Dates: Add USD value and key output targets	Done

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Kathy Farley	14	Comment on "Component 1 - Activities to be evaluated": All the components and costs in the peatland component should be evaluated.	Done
Kathy Farley	15	Comment on "complications with vendor deliverables ": Incorrect. Complications were related to overhead costs and issues around maximum allowed under the Grant Agreement. This resulted in agreement to change partners to vendors. Delays were due to EMM not understanding/accepting the terms of the Grant Agreement that they signed.	Corrected
Kathy Farley	15	Comment on "projections": What projections and why is this significant? Better to just say they ran out of time and did not complete the project as designed. This means those costs and resulting benefits will not be counted.	Corrected
Sarah Lane	16	First paragraph after 2.4: "reducing GHG emissions" - EA has a policy of not including, though from a methodological perspective, this is fine if you can calculate the social cost of carbon	Noted and addressed
Sarah Lane	16	Second paragraph after 2.4: "Including benefits to rice farmers, small palm oil producers, and users of biogas…." - benefits such as?	Noted and addressed; we were aware of the EA policy but believe we have found a way to isolate the GHG emissions (and its reduction) to the social cost of carbon in only Indonesia.
Sarah Lane	16	Third paragraph after 2.4: "mutually exclusive as they are operating in different areas" - since they are mutually exclusive, can you explicitly state the anticipated financial benefit and cost streams for each grant?	This is primarily increased income as a result of increased productivity on the farm. We've clarified that in the attached report. We've also added the annex which goes into much more depth on this topic and I hope, makes it much clearer.

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B Epley/MCC	16	Please identify the costs and benefits included in the ex-ante CBA approach as a point of comparison for the changes being suggested in section 2.4. In particular, benefits to rice farmers/small palm oil producers and biogas digesters (see para. 2 sec 2.4) may have already be counted in the ex-ante CBA approach. To determine that no double-counting is occurring will require greater specificity.	Yes, definitely - we've added an Annex that goes in depth into each of the costs and benefits to be included in each model for each grant
B Epley/MCC	16	The proposal to calculate a portfolio-wide economic analysis adds significant complications. For example, how are the failed or rejected projects being valued?	The Annex omitted from version 1 makes it much clearer. This section also includes a discussion of the ex-ante analysis and what parts we will examine more closely and possibly adapt in the ex-post analysis.
MCC/GSI	16	benefits to local women and men who worked on revegetation of peatland is missing. Were these project participants given daily wage for revegetation or a long-term share of the profits.	Agreed - we only intend to look at the 3 grants, not the entire portfolio for the CBA and have adjusted the language here.

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Sarah Lane	17	First bullet under Economic Analysis: how will you monetize the cost avoidance of fire and flooding?	Labor hired for the project can only benefit from the project if what the project pays (in cash or other benefits) exceeds the alternative wage they can receive in the market. So, if the project pays the prevailing competitive market wage, there is no benefit for the labor as the project only replaces another employer. If the project's pay exceeds the market wage, then there is a net gain for labor equal to the difference between the project's pay and market wage. The team will look for evidence of such benefit by obtaining information about the market wage and project wage. If in fact these individuals have increased their incomes over their opportunity cost, this adjustment will be made in the economic analysis to reflect this benefit to the economy as a whole (in economic terms, adjustments will be made if the market price for their labor diverges from the economic price). To the second part about a share in profit - if this exists, we would demonstrate it as an allocation to the equity holders. We've added a question for the village leader to make it clear this is part of our fieldwork.

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B Epley/MCC	17	Ricke, et al. (2018) includes social-economic adjustments to climate change. From the abstract: "Here we estimate country-level contributions to the SCC using recent climate model projections, empirical climate-driven economic damage estimations and socio-economic projections". The CBA model is independently estimating the benefits in terms of climate-adaptations (for example, to the extent that peatlands drying-out and increased fires are endogenous to climate change these are included in Ricke, et al.). This implies a potentially significant double-counting, unless Integra can adjust the Ricke, et al. estimates to account for this issue.	We hope the Annex will now make this much clearer. One of the advantages of the Ricke et al. study (in particular their interactive scenario simulator) is the ability to disaggregate the components of the SCC estimate for Indonesia. Provided sufficient documentation, this may enable us to adjust for the double counting directly. However, if not possible to address this directly, it is worth noting that benefits in future fire risk reduction via averted climate change will be accrued far in the future (and thus heavily discounted) as compared to the direct (and more immediate) fire risk reductions through rewetting. While this does not fully address the issue of overestimating benefits, it does temper the likelihood that results of the ERRs are sensitive to this overestimation. Nevertheless, the comment is well received, and the team will be transparent regarding the final methodology to address this issue.
Kathy Farley	17	Comment on 1st sentence: If this is from the EMM project this is out of the Palm Oil Component and unrelated to Peatland Component	The EMM Peatland project had a small component that constructed 15 village-level biogas digesters, O&M training and arrangement of secure feedstock supply for these digesters. These were livelihood-related, which we understand to be integrally related to the Peatland Component.

(Re: CBA) To clarify - we understood that we needed to look at the entire grants (to the extent the costs and benefits can be monetized) as they fell under the Peatland portfolio. Is the understanding that we should actually exclude the palm oil parts of these grants? These benefits to palm oil producers and the biogas digesters were included in the ex-ante analyses. |

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Kathy Farley	17	Comment on "Economic Analysis" : How does this compare with the MCA/MCC approach?	I hope the Annex makes it much clearer. This section also includes a discussion of the ex-ante analysis and what parts we will examine more closely and possibly adapt in the ex-post analysis.
Kathy Farley	17	Comment on "Finally, each model will include the key …" : What about MCA related GP costs – for PMC and other staff and consultants == a share should be allocated, correct?	Yes absolutely - we have added that in (which also aligns with the ex-ante analysis).
Kathy Farley	17	Comment on "First, MCA grantees also …" : Other than EMM what grantees?	Our understanding is the other grantees also provided similar assistance, for example WWF Indonesia also provided technical assistance to BRG.
Kathy Farley	18	Comment on "restoration" in first line" : It is restoration and proper long-term management and monitoring.	
Kathy Farley	18	Comment on "INDIRECT" under 2.5.2.: What about illegal planting on peatland?	addressed
Kathy Farley	21	2.6. Comment on "peatland activities": This is pretty narrow. Can lessons, learning inform wetland restoration, other similar environmental projects that involve community buy-in and good policy, policy reform?	addressed
Kathy Farley	21	2.6 comment on "facility's results": What does this mean? The results of projects identified, developed and implemented in a facility context? This seems out of scope.	Corrected
	21	Comment on last sentence: Need reference ICF work and connection to this evaluation somewhere."	Our understanding is that this referred to an evaluation question, which we cannot change - but accept the point, and have added this to literature review, data collection instruments for GoI and MCA (treating it as technology transfer to government)

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MCC/GSI	22	capacity building of local women and men in revegetation and protection of peatland, and alternate livelihood is missing completely from implementation area of inquiry. Need to evaluate women and men's understating and knowledge of peatland restoration and protection, that it benefits them. the community behavior change is missing. ADD these important topics. what will make the project outcomes sustainable. Role of the village elders, local dispute resolution system in peatland protection.	addressed
MCC/GSI	23	a stakeholder analysis and mapping will be important to conduct the field work, who are the important stakeholders, who are the vested interest groups, who are and can be the advocates and protectors of the peatland. All KII and FGDs need to include village women. separate FGD with women may be necessary if women are uncomfortable to speak in front of men.	addressed
B Epley/MCC	27	"To assess sustainability the team will review cost-related data for support from the GoI." Numerous activities require buy-in from local communities that may not be captured from cost incurred by GoI alone (for example with regard to revegetation). Are there any plans to assess sustainability from the community perspective?	addressed
MCC/GSI	27	only 2 MCC staff will be interviewed? Suggest including ESP and GSI together with other technical staff.	addressed

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Desai	Questionnaire	I have comments in the attached word document, but in general – 1) there are a lot of questions in each section (and there are multiple questions within a question). It would be helpful to group them more efficiently and streamline the questions. Also, it would also be helpful to see which questions are simple Y/N questions, and the respective skip patterns (follow up questions). Having the instrument laid out more carefully will make it easier if was to review this later and/or share with others…. 2) It would also be helpful to preface the various sections (Questions 1, 2, 3 and 4) with language describing the types of questions you'll be asking next. This will help sequence questions and help with transitions… 3) Be careful with terminology - I think the word project, activity, and grant are often used interchangeably but they mean different things to diff stakeholders so just be consistent and it may be useful to describe/explain the structure and what you mean at the beginning of the interview.	The EDR has been revised to take this input into account; instruments were streamlined - some were redundant and were combined.